VOL. 87 NO. 9

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textile bulletin

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SEPTEMBER • 1961

S ISSUE

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ILE BULLETIN is published ...hly by Clark Publishing ..., 218 West Morehead St., Charlotte 6, N.C. Subscription 50 per year in advance, $2 two years. Entered as econd-class mail matter March 2, 1911, at Postoffice, ...tte, N. C., under Act Congress, March 2, 1897.

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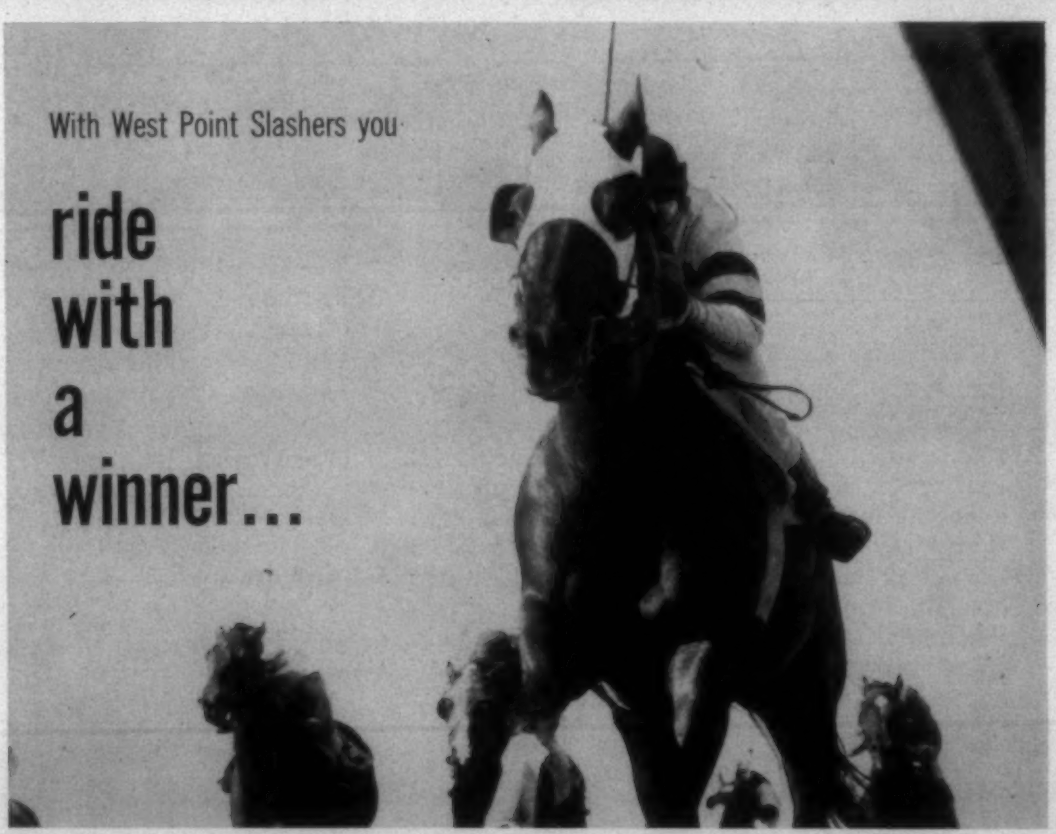
With West Point Slashers you
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with
a
winner...

Performance proves leadership. That's why the West Point Pacesetter is the industry's largest selling slasher today. More than 200 new Pacesetters installed in three years are producing more warps and better warps faster for leading mills. Go to West Point for slashers! West Point Foundry & Machine Company, West Point, Georgia.

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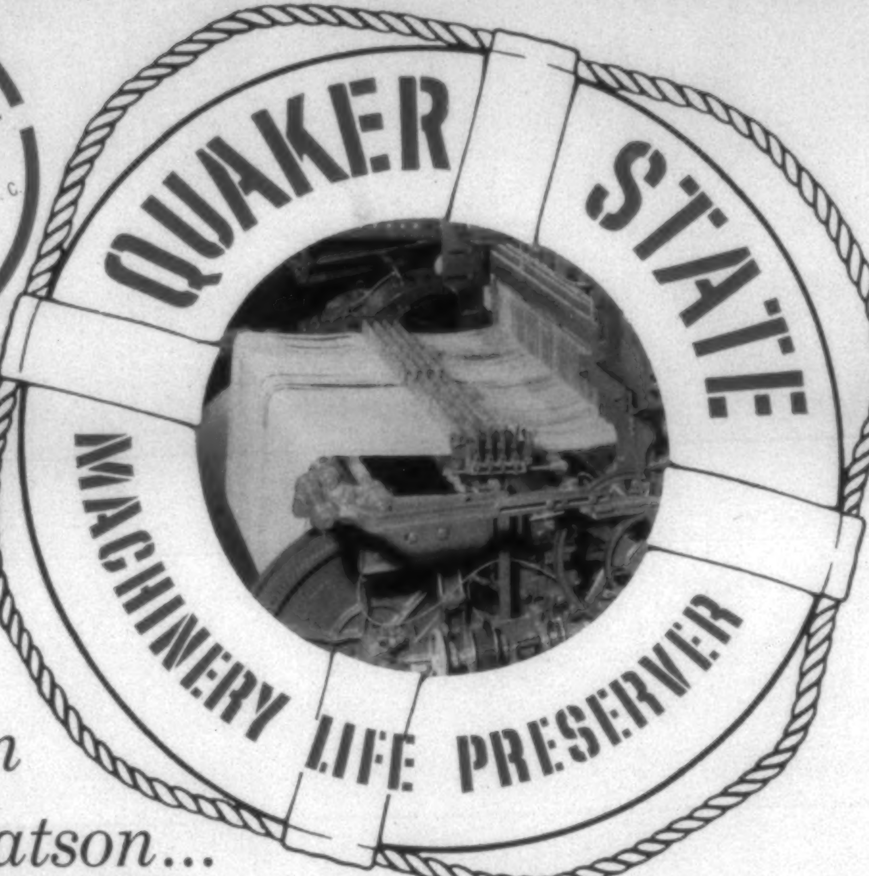

NEW from Louis P. Batson...

QUAKER STATE

Superfine Multi-Purpose Lubricant to improve and simplify your greasing procedures...

Now you can order from ONE source, ONE lubricant for all plant greasing needs, plus reduce the number of lubrications and improve machinery efficiency. A product of the world's largest and most respected marketer of highest quality Pennsylvania oils, Quaker State's Superfine Multi-Purpose Lubricant, with fast delivery available from Louis P. Batson Company, offers you these money-saving advantages for your textile plant:

1. It can be used to meet *all* your lubricating requirements. No other lubricants need to be stocked.
2. It is unique in that it does *not* contain any soap-base thickening agents. It maintains a lubricant film on bearing surfaces at temperatures where conventional soap-type lubricants tend to break down and leave dry surfaces.
3. It will not melt or drip at temperatures of over 500° F.
4. It will not wash out or emulsify in the presence of water or steam.
5. It has exceptional resistance to water, rust or corrosion, particularly to iron and steel parts where exposure to moisture or steam is a problem.

Quaker State's Superfine Multi-Purpose Lubricant has exceptional properties of lubricity, adhesiveness to metal surfaces, heat stability and moisture resistance—Batson and Quaker State add up to SAVINGS for you in maintaining your production schedules.

Call or wire Batson collect at 232-7691 Greenville, S. C., and get the full Quaker State story.

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NEW

Dispersol CWL

For Improved Level Dyeing of Wool

The finest level dyeing assistant available!

Reduces the rate of dyeing and results in a marked improvement in the level dyeing properties of acid milling dyes.

Dyeing can safely be commenced at higher temperatures, thus reducing the overall dyeing time.

Enables acid milling dyes to be applied under acid conditions.

Improves compatibility of acid milling dyes, allowing dye combinations previously considered unsuitable.

No reduction in fastness properties.

Send for application data and sample.

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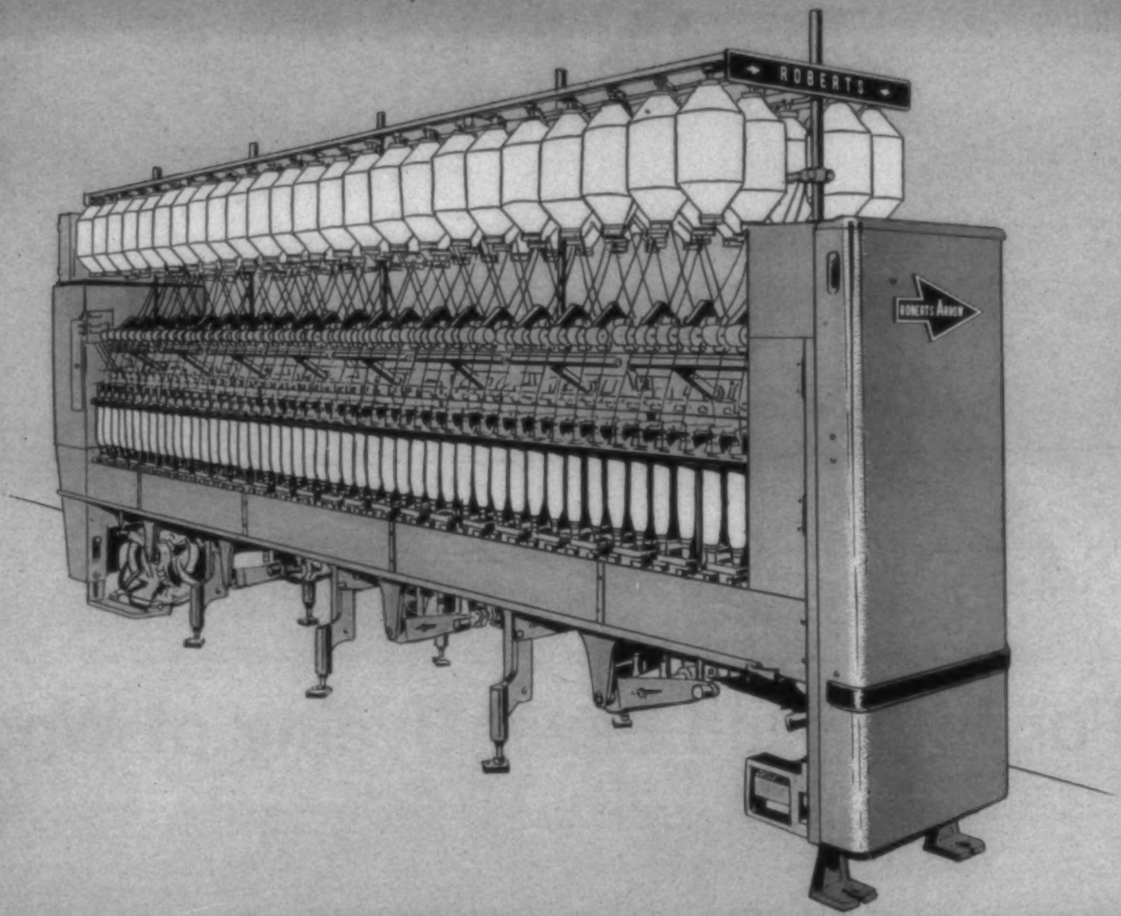


ROBERTS ARROW

ADVANCED ENGINEERING DESIGN
ATTRACTIVE LOW PRICE
PRACTICAL MILL OPERATION

1200 NEW ROBERTS ARROW Spinning Frames with some 380,000 spindles have been installed in mills since their introduction four years ago; dramatic testimony that Arrow Spinning does the job to mill satisfaction!

RUGGED, ALL BALL BEARING and free of gadgetry and frills, new Arrow Spinning has been refined and streamlined, and engineered for peak performance and dependability. Many technological improvements have been incorporated.

HIGHEST YARN QUALITY! With new FC Drafting cotton system spinning, Arrow Frames consistently spin stronger, more even yarns. Proper fiber control, gripping and weight assure superior yarn quality.

INCREASED SPEEDS! Spindle speeds to 15,000 r.p.m., dynamic balancing of all components, and maximum use of ball bearings provide increased production and economy, with smooth and dependable performance.

WIDER VERSATILITY! Coarse or fine yarns from 2s to 120s count, cotton or synthetics and blends, and a broad range of drafts from 10 to 60 are successfully handled. New Arrow Spinning spins short or long staple cotton, and synthetics from $1\frac{9}{16}''$ to 3". Changes in fiber, yarn number, draft, twist and bobbin build are quickly accomplished.

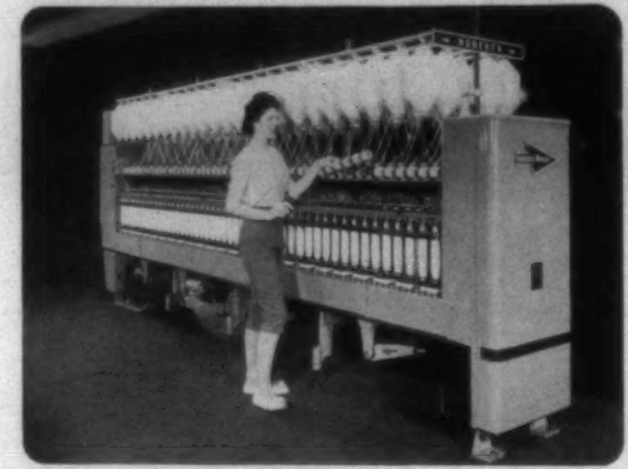
REDUCED CLEANING, MAINTENANCE! Strictly functional, new Arrow Spinning has been engineered for trouble-free operation with reduced cleaning and maintenance. Simplification of components, and fewer parts provide quick, easy cleaning.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

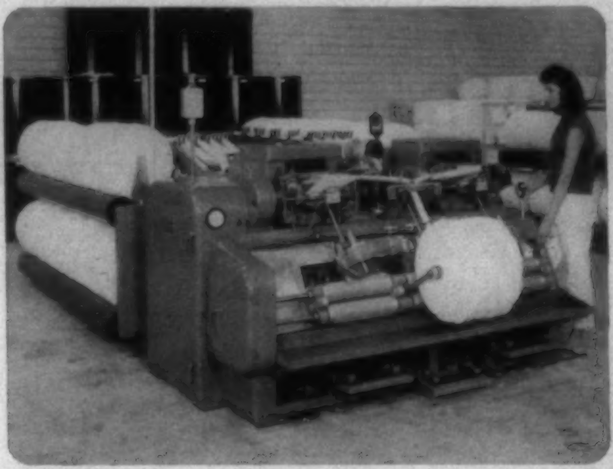
ROBERTS

YARN MAKING MACHINERY

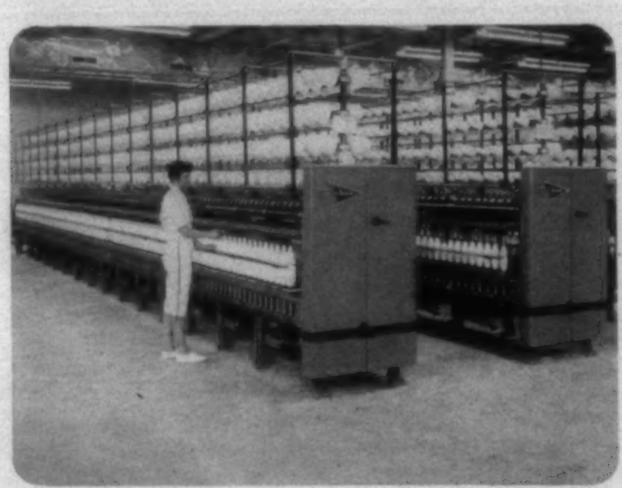
for Cotton, Worsted, or Long Fiber Systems



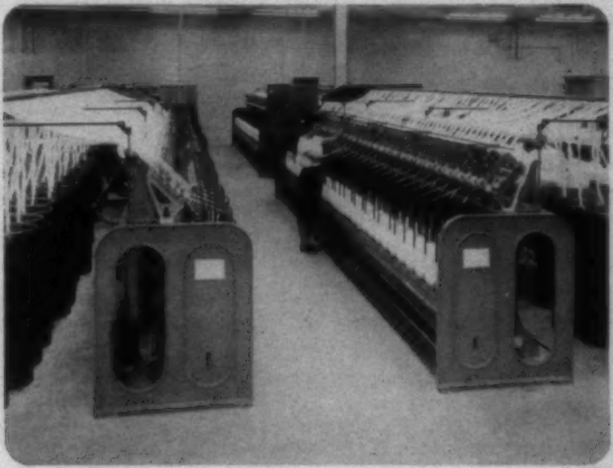
ROBERTS ARROW SPINNING for both cotton system and long fiber system yarn spinning for natural and synthetic fibers and blends. High speed, all ball bearing, big package Arrow Spinning Frames in 25-inch or 36-inch width. Exceptional flexibility and simplicity of operation in the manufacture of improved quality yarns at reduced costs and modest initial investment.



ROBERTS worsted system preparatory machines, including PāraBlenders, ParaDrafters and AutoEveners, are rugged, high performance machines for pinning, parallelizing, drafting and blending worsted and synthetic fibers prior to roving and spinning, and in top making plants. AutoEvener automatically and instantaneously corrects delivered sliver weight to within plus or minus 1%.



ROBERTS TWISTERS for plying yarns are completely ball bearing equipped and designed for high speed ring twisting operations. 25- or 36-inch frames. Up to 3½-inch rings and 12-inch bobbins. Package weights 1¼ pounds on cotton, ¾ to 1 pound on worsted.



ROBERTS ROVING FRAMES are ball bearing rebuilt and feature all-new heavy duty ball bearing Roberts Double Apron Drafting Systems for cotton, short staple or long fiber synthetics, worsted and blends. 10x5 and 12x7 packages. Provisions for double headed spools.

Simplicity of design, rugged construction and high speed ball bearing operation are the trade marks of all Roberts Company machinery. Roberts also supplies rebuilt spinning frames and modernization changeovers for mills' existing machinery.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

"Top 10 Plants" Award Winner

HANES HOSIERY MILLS'

WEEKS DIVISION

Fully air-conditioned by Bahnson

Consulting Engineers: Davidson and Shepard

16-acre Weeks Division Plant requires 3300 tons of refrigerated air-conditioning.

Inspecting the air-conditioning in the modern Looping Room of the Weeks Division are Hanes Board Chairman R. B. Crawford and Agnew Bahnson, Jr., President, The Bahnson Company.

Factory Magazine Cites Hanes Plant for "Overall Excellence in Planning and Construction"

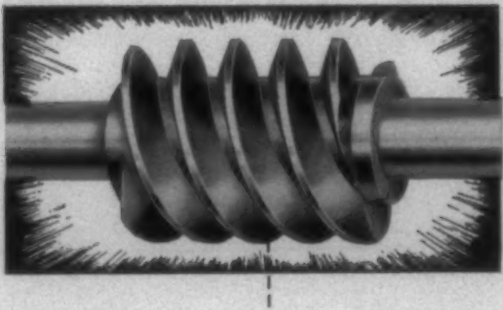
Bahnson Central Station Systems at the new Weeks Division Plant provide year 'round air-conditioning, custom-designed to suit each step in Hanes' integrated manufacturing process. Hanes Board Chairman R. B. Crawford praised the Bahnson air-conditioning installation and its operational efficiency. The Bahnson Company takes pride in being part of Hanes' nationally acclaimed Weeks Division Plant.

Call in Bahnson when you have air-conditioning problems or plans. Bahnson specialists are backed by almost a half century's experience in industrial air-conditioning.

Bahnson

AIR-O-MATION

THE BAHNSON COMPANY • WINSTON-SALEM, N. C.



Cleveland's Master worm principle enables exact mating of any replacement worm or gear...

if ever required!

These original Master Worms —our "common denominator" of quality—as well as all hobs for each size and ratio of Cleveland worm gearing are individually produced in our tool room to extremely close tolerances. Furthermore, each hob is painstakingly checked against the master worm—as are all Cleveland production worms and gears.

It's never necessary to replace Cleveland worms and gears in *sets*. Because, each Cleveland production worm or gear is a duplicate of each other.

A new gear will always mate exactly with an old worm and vice versa. Cleveland's Master Worms are never destroyed but kept in perpetual stock—always available at a moment's notice. So, you're guaranteed perfectly fitting worms or gears for service and maintenance requirements.

Get the complete story from your Cleveland Representative, today. Or, write us direct for free Bulletin No. 405—it gives full engineering information.

Cleveland Worm & Gear Division
Eaton Manufacturing Company
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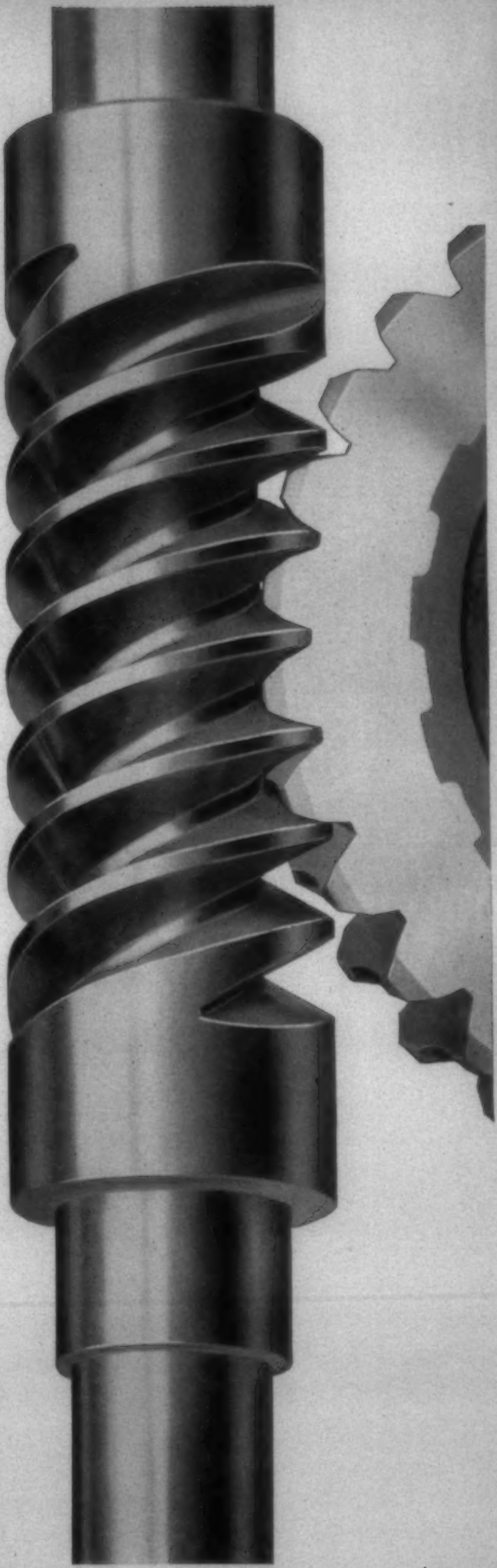
CLEVELAND

Speed Reducers



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Stainless Products

for

CONSTRUCTION AND INDUSTRY

McJUNKIN brings to the Carolinas 40 years of experience as a progressive and growing supplier to industry. Periodic expansion has enabled us to provide opportunity and maintain a vigorous young organization of top-flight personnel. The McJUNKIN people in Charlotte relish the opportunity to do a real job in this industrial center, and they have more to work with than anyone in the business—the backing of a successful and widespread organization which has never lost its customer consciousness.

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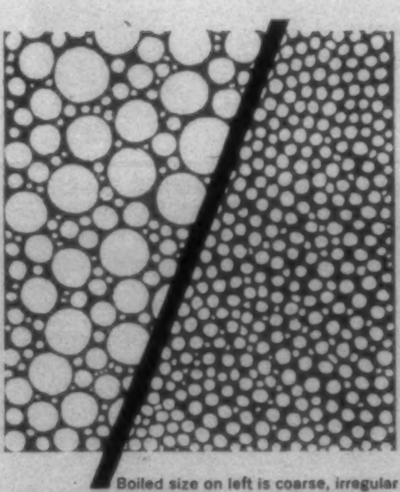
DISTRICT SALES OFFICE
New York

Now use any price starch!



Boiled size on left is coarse, irregular and unevenly mixed. While Gaulin-Homogenized size at right is smooth, regular and evenly mixed.

Control Size Viscosity Accurately with a Gaulin Homogenizer

More than 12 years of successful experience in hundreds of mills proves a Gaulin Homogenizer is the best way to maintain accurate viscosity control on any starch.

It's uniform. Just set the pressure for the desired viscosity. (For any given type of starch, the viscosity is a function of pressure.) A Gaulin Homogenizer reduces the human element in size-making . . . automatically maintains the right viscosity.

Even a low-priced pearl starch makes a better size when Gaulin Homogenized. It penetrates yarn lightly but evenly — bonds fibers together smoothly, firmly . . . without coating or matting and making them brittle. You get a more elastic yarn that *sheds less* . . . and *breaks less* at the loom and slasher.

Costs less. Hundreds of mills have proven it. Whether prepared continuously or in batches, every drop of Gaulin-Homogenized size has a uniform viscosity. It's smooth, regular and evenly mixed. Your savings can be substantial.

See your local Manton-Gaulin representative for complete details.

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Southern Representative
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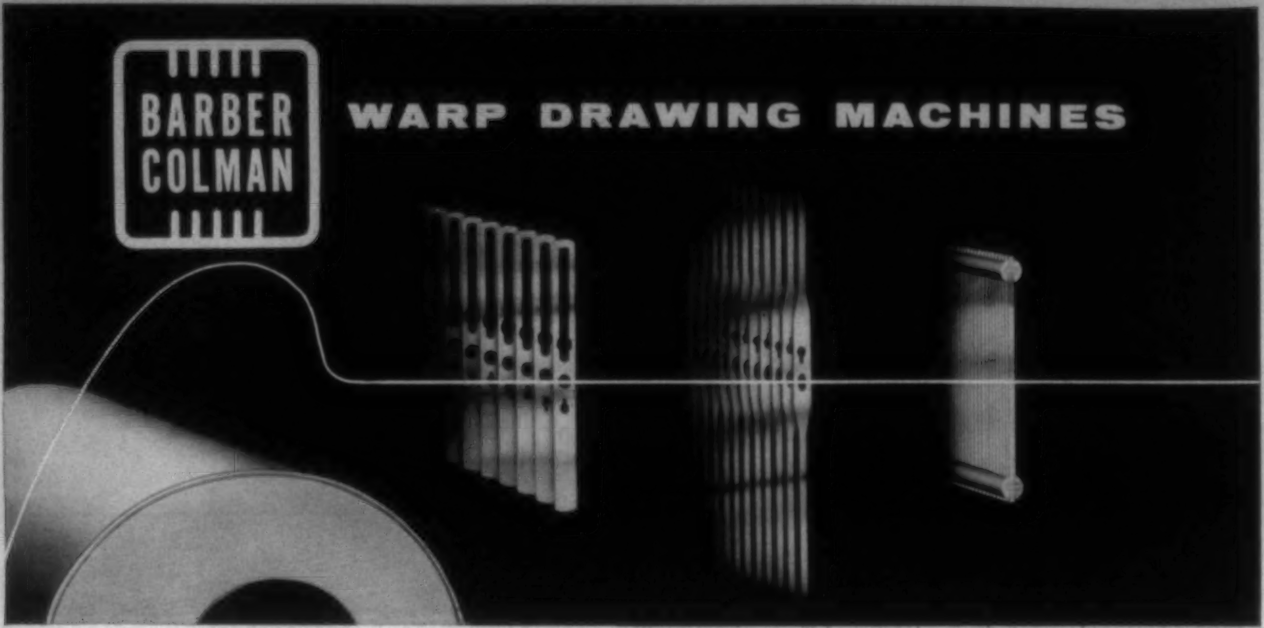
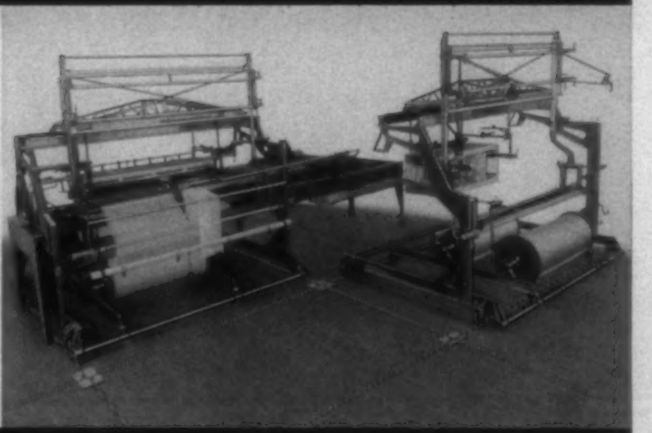


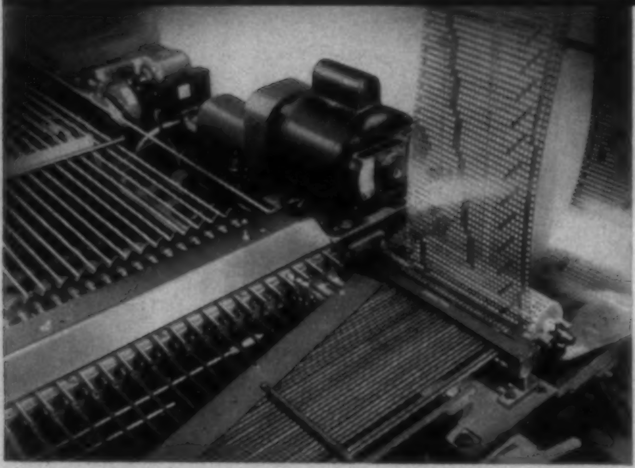
BARBER COLMAN

WARP DRAWING MACHINES

DRAW ALL 3 ELEMENTS . . . HEDDLES, DROP WIRES, REED

This modern Model SH (shown here in the two-truck type) permits drawing-in of keyhole type steel heddles in combinations up to 24 frames and with or without 8 or less banks of closed-end drop wires, plus reed. At each stroke of the needle the proper combination of all elements is accurately drawn, in correct sequence, under positive mechanical control, and at a rate of up to 4500 ends per hour. These machines are of tremendous value in meeting the challenge of today's fast-changing textile merchandising.





CONTROLLED BY PATTERN PUNCHED FROM DESIGN DRAFT

This perforated pattern, which can be punched in either metal or paper, governs all the coordinated actions of the machine. As an example of versatility, the pattern shown is for a split sheet draw from two warp rods, entered in 22 harness, 6 banks of drop wires, and two threads per dent in the reed.

WRITE FOR BOOKLET

Ask for this Bulletin 2442 and learn about the details of Warp Drawing Machines. Color illustrations show various types of complex patterns that can be precisely and efficiently drawn-in.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

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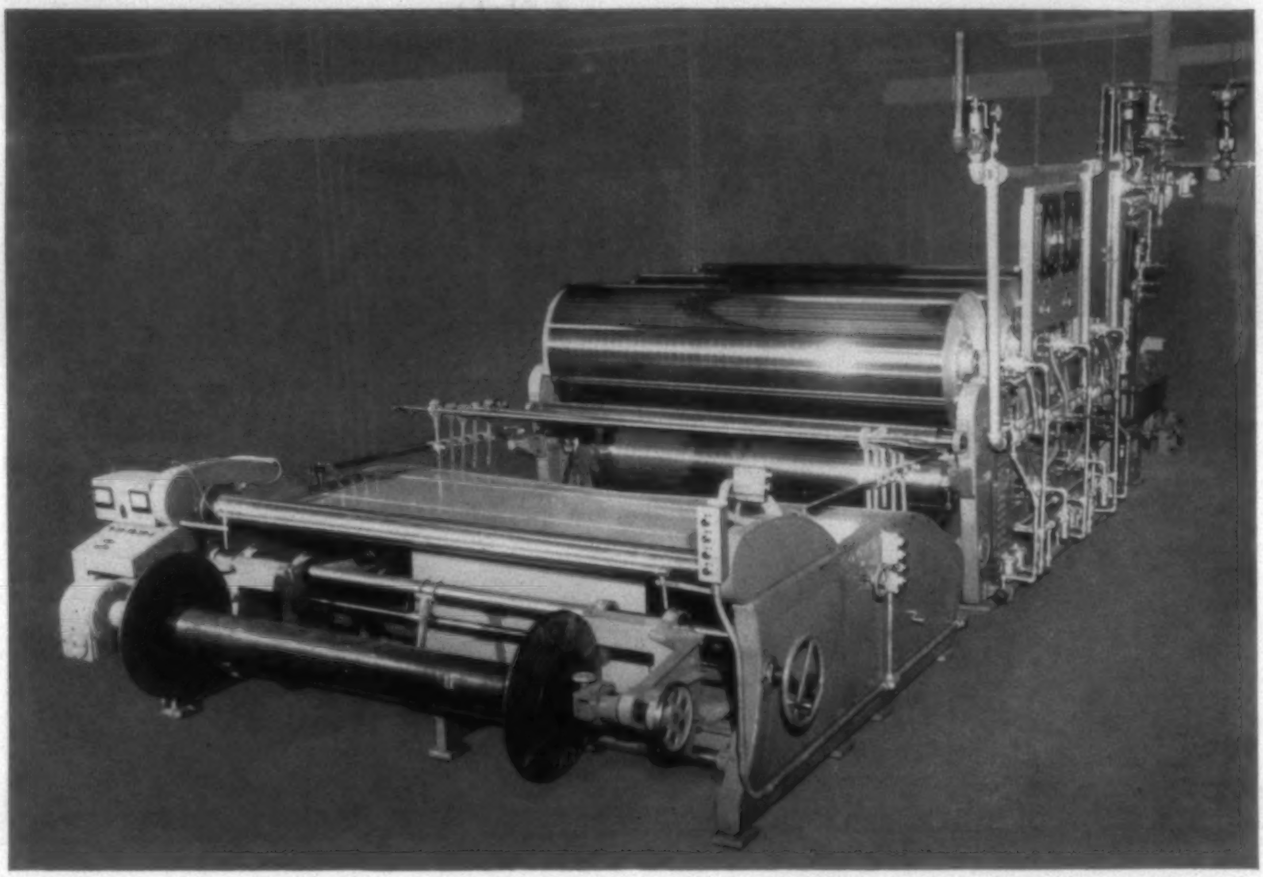
ANOTHER RECENT COCKER GH SLASHER INSTALLATION



A new installation at
COLUMBUS FIBER MILLS
Columbus, Ga.

Cocker Slashers handle every conceivable type of yarn. The slasher shown here is sizing warps for upholsteries, stripes, patterns, and plain and will accommodate beams from 36" to 128" without projecting spindles.

The Cocker GH Slasher is unquestionably the World's most efficient and most modern slasher. Only Cocker offers full-length, heavily-girted frames of compact and accessible design which permit sustained speeds up to 184 ypm with practically no vibration. Only Cocker offers the revolutionary Torque Tube Drive* which eliminates stretching, greasy chains, noisy, dirty sprockets, and troublesome splined shafts. These and other valuable features found only on Cocker Slashers back up our claim of producing "TOMORROW'S SLASHING TODAY".

Now, and for years to come, no other slasher will be more capable of heavy, high speed, quality production on all types of fibers. Write for illustrated catalog today.

*Pat. Pending

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WORLD'S LARGEST DESIGNERS
AND BUILDERS OF COMPLETE
WARP PREPARATORY EQUIPMENT

"down time" goes down...stays down
with CARTER travelers

When you specify CARTER TRAVELERS you insure smooth, trouble-free spinning and twisting regardless of yarn count or spindle speeds.

Why? Because precision engineering—skilled craftsmen working with modern machinery—plus scientific laboratory quality control give you a product that cuts worry-time to a minimum . . . . increases smooth running time.

Sold and serviced by a team of *specialists*, CARTER TRAVELERS help you make and sell a better product at a better profit.

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DIVISION OF A. B. CARTER, INC. MANUFACTURERS OF THE BOYCE WEAVERS KNOTTER GASTONIA, NORTH CAROLINA

NOW...FASTER,
LOWER COST SLASHING
MORE UNIFORM YARN SIZING

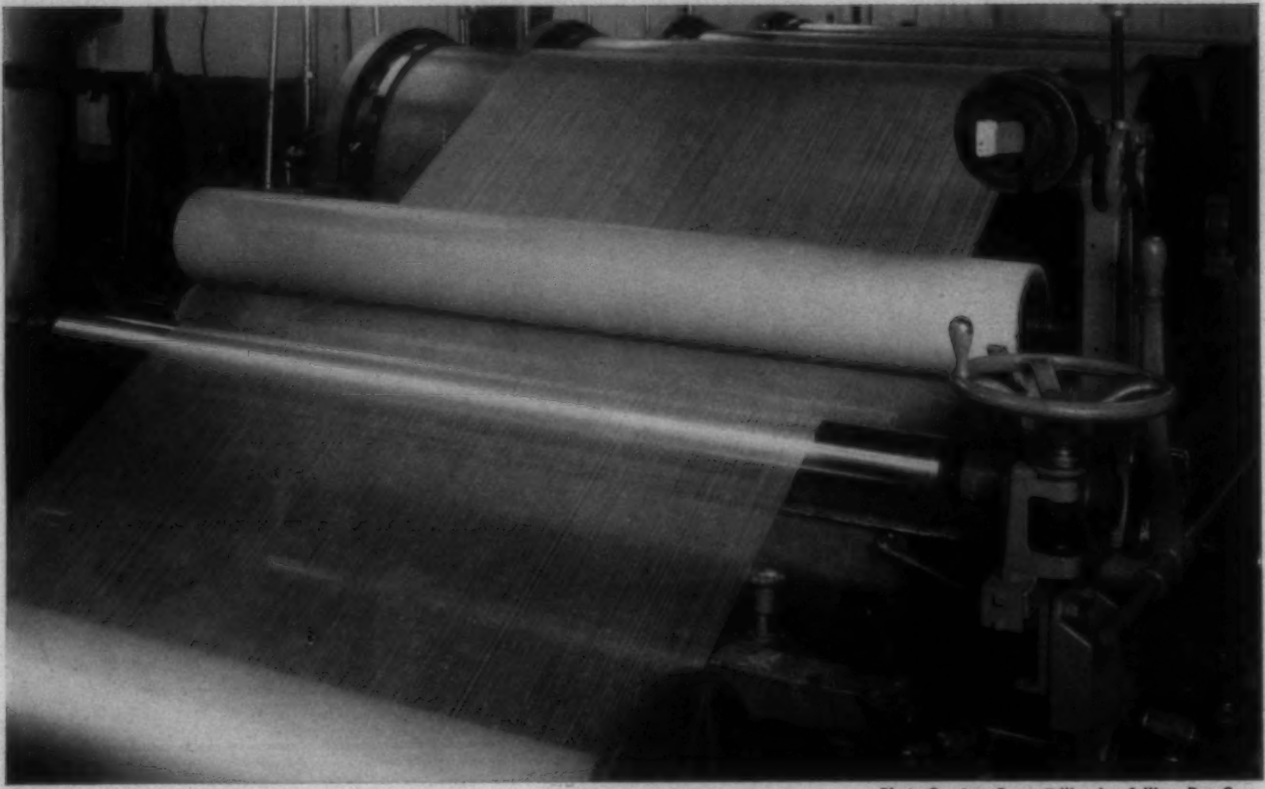


Photo Courtesy Prescott Warping & Warp Dye Corp.

NEW MANHATTAN SLASHER ROLLS ARE YOUR BEST BUY AT SQUEEZE AND DRESSING ROLL POSITIONS

ONLY MANHATTAN SLASHER ROLLS OFFER THIS COMBINATION OF FEATURES:

- Special synthetic rubber compounds control size pick-up to your requirements.
- Uniform, correct roll density assures *uniform, even* pick-up—the finish *you want.*
- Accurate metering of size permits substantial savings in starch costs.
- Distinctive red roll color permits faster, easier detection of yarn-end breaks.
- Keep perfect cushion *without* indentation—eliminate slasher downtime costs to maintain blankets.
- Roll end-caps prevent metal corrosion between cover and metal core.
- Provide highest resistance to starches, gums, softeners, oils or chemicals. Can be reground for longer life.

Let a Manhattan roll engineer show you how to get "More Use per Dollar" with Manhattan Slasher Rolls. Ask about the new Textractor and Texroc Rolls for maximum water removal and longer life on your mangles.

RM1058

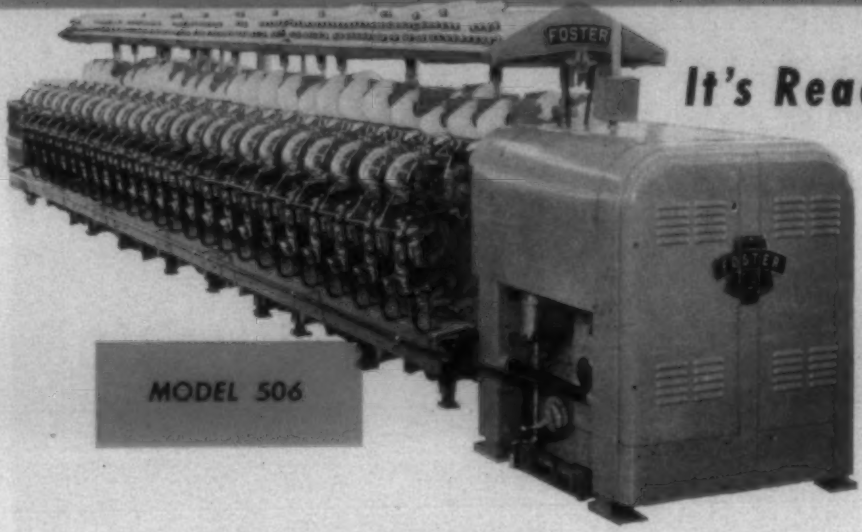
ENGINEERED
RUBBER
PRODUCTS
...MORE USE
PER DOLLAR

R/M

MANHATTAN RUBBER ROLL DIVISION • NORTH CHARLESTON, SOUTH CAROLINA

RAYBESTOS-MANHATTAN, INC.

FOSTER MODEL 506 AUTOMATIC WINDING MACHINE



It's Ready! It's Selling!

Additional machines will be shipped, beginning this September, to such progressive mills as A. M. Smyre Manufacturing Company, Ranlo, N. C., The Russell Manufacturing Company, Alexander City, Ala. and Swift Spinning Mills, Inc., Columbus, Ga.

Firestone Synthetic Fibers Co., Hopewell, Va., and E. I. Dupont de Nemours & Co. of Seaford, Md., have also placed orders for the Model 510, another version of the 500 series.

THE FOSTER MODEL 506 BENEFITS YOU IN 8 WAYS:

1. Increases operator productivity by 50%.*
2. Winds at twice the speed of our manual winder.
3. Requires less floor space per pound of yarn produced than our manual winder.
4. Prevents wild yarn (butterflies), tangles, bobbin rings, crossed ends, uneven package density and rough yarn.
5. Electric size stop breaks back yarn, eliminating gauging of package diameter by hand.
6. Produces any type of open wind putup, including a steep taper (9°36′) knitting cone up to 14″ in diameter.
7. The Model 506 cone is an even better package than the Model 102 cone (standard for the sales yarn market for many years).
8. Investment required is no more than for our manual winders with same capacity and similar features.

**Substantiated and documented in mill tests, under production conditions.*

AUTOMATIC FEATURES

Only those operations which will NOT endanger yarn or package quality have been automated. These include threading up, slubbing and cleaning, disposal of empty bobbins, gauging full cones, donning full bobbins and doffing empty bobbins.

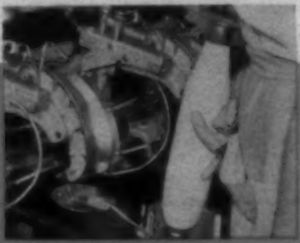
SPEEDING UP MANUAL OPERATIONS

To keep the mill investment required within practical limits and to assure top yarn and package quality (which is so vital to sales yarn spinners), donning and doffing of cones, providing the bobbin supply and knot tying are still done manually. However, providing the bobbin supply and tying knots have been so simplified that altogether they require only fractions of a minute. Wild yarn, tangles, bobbin rings, crossed ends, uneven package density and rough yarn (which are unavoidable at times with automatic knot tying) are definitely prevented.

YOU CAN STILL GET EARLY DELIVERY

We will put 1,000 additional spindles of the Model 506 into production in December for delivery early next year. If you want early delivery, order NOW!

MANUAL OPERATIONS WHICH TAKE ONLY FRACTIONS OF A MINUTE AND PROTECT YARN QUALITY


Dropping bobbin in chute.

Tying knot with standard high speed knotter and testing — all with left hand.

Restarting spindle with right hand.

266-1

FOSTER MACHINE COMPANY

A YARN WINDER FOR EVERY PURPOSE
Westfield, Massachusetts, U. S. A.

Member of American Textile Machinery Association

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USTER IMPERFECTION INDICATOR

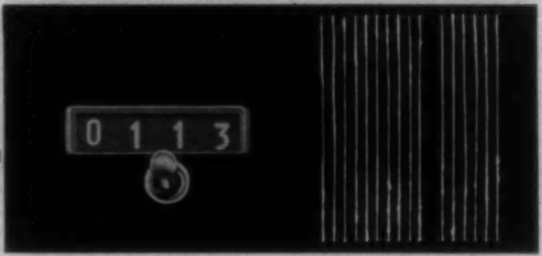
IPI COUNTS

where it counts most–
in yarn quality!

COUNTS NEPS

COUNTS THICK PLACES

COUNTS THIN PLACES



The Uster ImPerfection Indicator introduces an entirely new concept in yarn defect analysis. It counts neps, thick and thin places (chief causes of seconds in knitted or woven goods) in one operation with far greater accuracy than the human eye. Exact numbers of imperfections are tabulated and recorded on visual counters simultaneously with other tests being run. No additional personnel or testing time is required.

Loom stoppage can be more accurately predicted because IPI will show the number and seriousness of thick and thin spots in yarn according to preset sensitivity controls. It also automatically compensates for short and long term count variations in yarn, thereby indicating the seriousness of the defect in relation to yarn size.

For your convenience, Uster will make available world wide standards for use with this instrument.

USTER

USTER CORPORATION, CHARLOTTE 8, NORTH CAROLINA

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Canadian Sales Offices:
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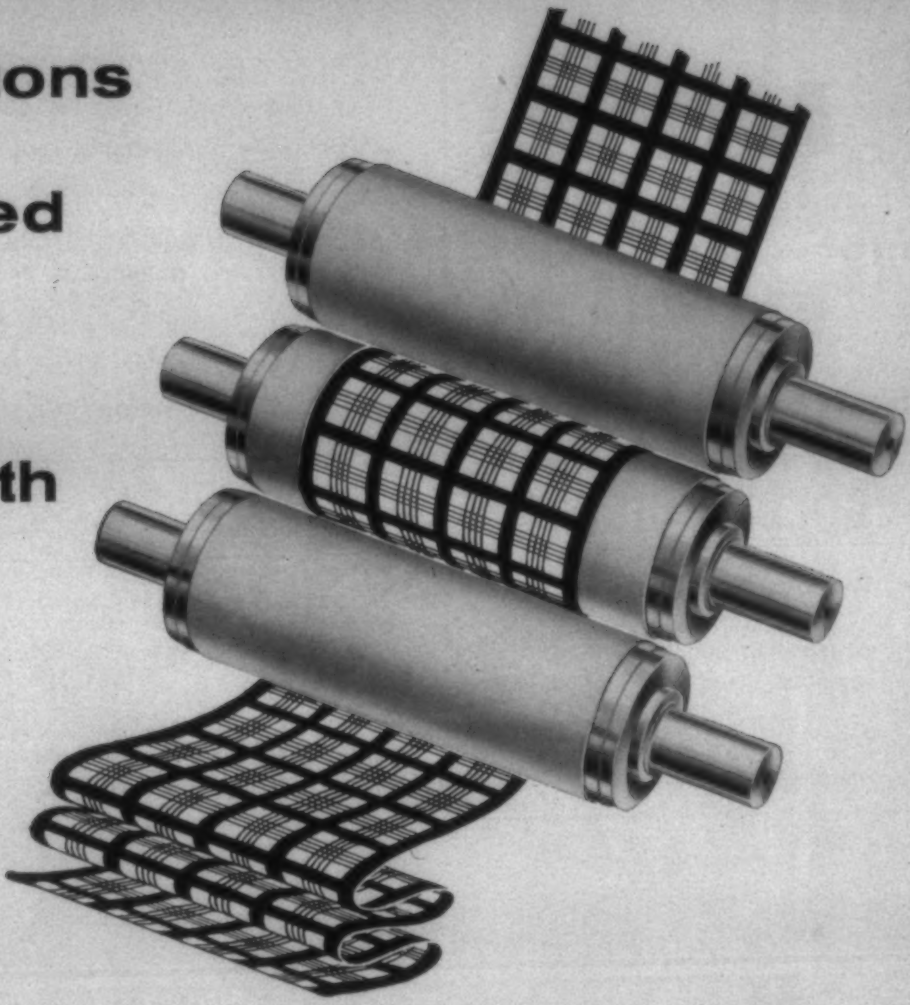

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and the brand new "GOLDEN CIRCLE"* HALF LAPS

Get full-needle lap penetration and excellent quality combing using 1200 grain laps.

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On Model J5 and J6 Combers, the Golden Circle Half Lap offers you:

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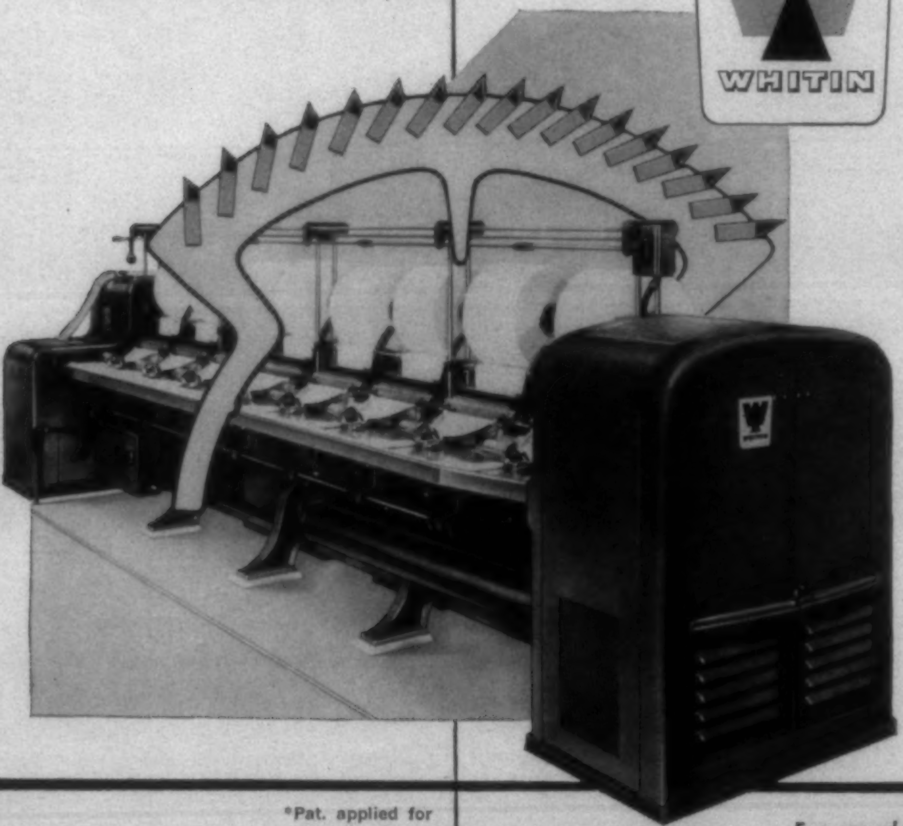

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*Pat. applied for

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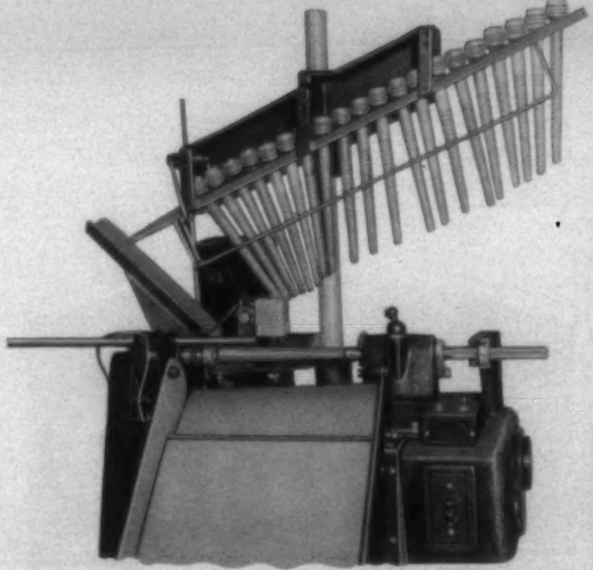

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(B-6117)

Q

A

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For The Textile Industry's Use

— NEW MACHINERY, EQUIPMENT AND SUPPLIES —

Water Mangle

Louis P. Batson Co., Greenville, S. C., announces the availability of a water mangle called the Aquaroll, which is said to extract a high percentage of moisture uniformly across the entire width of the fabric. Increased extraction is said to be made possible by the use of a pressure roller without bearings which is sealed on all sides and floats on a cushion of water.

The water is contained in an aluminum pressure chamber divided into two sections. Approximately 60 p.s.i. water pressure is utilized to force the pressure roller against the counter roller. This pressure is said to be applied evenly to the projected area of the roller surface. This provides an even distribution of pressure at the nip across the entire face of the roll.

The two-chamber design provides an air cushion automatically formed within the pressure chamber providing a certain amount of elasticity or resiliency so that seams may pass between the rolls without causing damage.

Water is supplied at the correct pressure by a rotor pump that draws the water from a reservoir and forces it into the pressure chamber. The pressure chamber is therefore completely isolated from any fluctuation that might occur within the main water supply to the machine. The pressure of the water can be controlled from 0 to 60 p.s.i. by means of an adjusting valve. To apply or release the pressure on the roll, the pump motor is turned on or off. Provision is made to avoid excessive pressure within the system by the use of a safety valve in the bottom of the pressure chamber.

On cotton fabrics, extraction of 50% is said to be usual. On some blends it is as high as 65%, Batson reports. The Aquaroll has a number of applications including use before drying operations to reduce the number of dry cans and steam required; for water extraction after desizing, boiling off and bleaching; and in connection mercerization after neutralization.

(Request Item No. I-1)

Delustering Finish

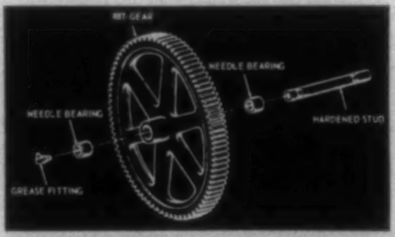
High degrees of delustering and flexibility are cited as prime properties of a newly-developed finish now available for textile industry use by the W. F. Fancourt Co., Philadelphia, Pa., textile chemical manufacturer.

Called Liq-Dull 63, the new finishing agent is designed to provide an unusual leveling ability along with delustering and gives flexible body with an even drape. It is available for woven or knit fabrics, natural or synthetic fibers and can be applied to both bleached and dyed goods.

Liq-Dull 63 is compatible with all Fancourt finishes. When used in conjunction with Nydull or Nydull LB, it is said to enable these finishes to penetrate the tightest folded goods.

(Request Item No. I-2)

Improved Loom Idler Gear



This exploded view shows the make-up of Crompton & Knowles' new 88-tooth idler gear.

An improved 88-tooth idler gear is available from Crompton & Knowles Corp., Worcester, Mass., for its W-3 and PAPA looms equipped with all-purpose takeup. The new design, which is recommended for weaves imparting heavy loads to the takeup mechanism, features needle bearings running on a hardened stud and provision for grease lubrication—all of which is designed to contribute to longer, maintenance-free service.

Reduction in the rotating friction between the gear and stud, achieved by the use of needle bearings and proper means for lubrication, is said to be reflected in a decrease in the tooth loading of the idler gear. Proper alignment of the gear is retained by the hardened stud and, together with the stability afforded by the needle bearings, assures correct tooth contact between mating gears thereby decreasing wear on the adjacent components of the takeup gear train.

Clean, positive lubrication is obtained by use of a grease fitting which permits the lubricant to be distributed internally through the rifle-drilled stud to the needle bearings.

The improved construction can be applied as a substitute for the original takeup parts without the necessity of any machining operations.

(Request Item No. I-3)

Weighing Feed Conversion Kits

James Hunter Inc., Mauldin, S. C., is making available two new conversion kits designed to improve the performance and reduce down time of all types of weighing feeds.

One known as the Aluminum Weigh Arm and Ball Bearing Suspension Unit and Damper Control, replaces the entire weigh arm and spring steel suspension strips previously furnished with Hunter Feeds. Its weighing accuracy remains the same, while eliminating all small disc counterweights. The scale is graduated from 8 through 32 ounces. Hunter's new unit is designed to eliminate downtime from broken suspension strips by providing extremely rigid bearings.

The other unit is Hunter's Weigh Pan Air Cylinder Conversion Kit. It can be used to replace rotary electrical solenoids and the old style air cylinder that required a spring for returning the doors to the normal position. All necessary parts, such as pressure regulator, gauge, fittings, air solenoid, air cylinder and mounting brackets are furnished, along with a set of installation blueprints.

(Request Item No. I-4)

New Method Of Laminating Polyurethane To Fabric

A new method of laminating polyurethane foam to fabrics, papers and plastic films has been developed by The Sterling Alderfer Co., Akron, Ohio. The new method is designed to provide a 40% saving in labor costs.

The method simultaneously bonds the foam to the rolls of fabric or other base material as the foam is skived in continuous yardage lengths from foam log. Immediate bonding gives the material strength and durability for easier handling and makes possible the use of lighter and thinner layers of foam. It is thus possible to get as much as 33% more length out of a log of foam, than by fusing methods, according to the company. Full rolls of foam-backed materials, up to 36" in diameter, can be produced; with any foam thickness down to .030".

Applications for several patents covering the method and equipment have been filed. Material is being processed in the Alderfer plant, but the company is recommending that manufacturers of products using the materials should install the equipment in their plants. They are supplying the complete skiving and laminating equipment; or operators of circumferential peelers can buy the laminator for attachment.

(Request Item No. I-5)

Card Flat Chain

Improved smoothness and accuracy of operation, with less friction, is said to be obtained with a new cotton card flat chain, now in production by Ramsey Southeast Corp., Charlotte, N. C. Ramsey reports that the link holes are shaved to remove the burrs and nicks usually remaining from normal punch press shearing and tearing.

The smooth shaving of the link holes permits a tightening up of manufacturing tolerance from hole to hole centers as well as with closer engineered dimensions throughout the other stamping and blanking operations. Punching, blanking and shaving dies were entirely redesigned for the 25-ton punch presses.

The link holes on the new cotton card flat chain from Ramsey Southeast are shaved smooth, allowing a tightening up of manufacturing tolerance from hole to hole.

The new chain is said to eliminate stiffness and "play" in the joints, allowing easier card flat attachment; to provide a full bearing contact between bushings and links without friction, grooving and shorter life caused by unshaved burrs; and to have heavy Cadmium plating for long resistance to moisture and corrosion, and longer, accurate life, aiding in producing a more uniform sliver with less waste.

(Request Item No. I-6)

Bedspread Yarn

Celanese Fibers Co., a division of The Celanese Corp., New York City, has developed Celacrimp, a new filament textured acetate yarn that has been specially engineered to expand the styling potential and performance of the entire bedspread field. Celacrimp is said to be especially successful in producing an heirloom bedspread effect when combined with cotton that creates a series of tone on tone colorings from the whole gamut of combination color cross dyeings that have previously been unobtainable with other fiber combinations.

Outstanding performance qualities cited for bedspreads woven with Celacrimp include its excellent retention of original appearance on repeated washings because the texture is permanently built into the yarn. Celacrimp offers an improved uniform quality to the structure of heirloom type bedspreads in that it minimizes the problem of linting,

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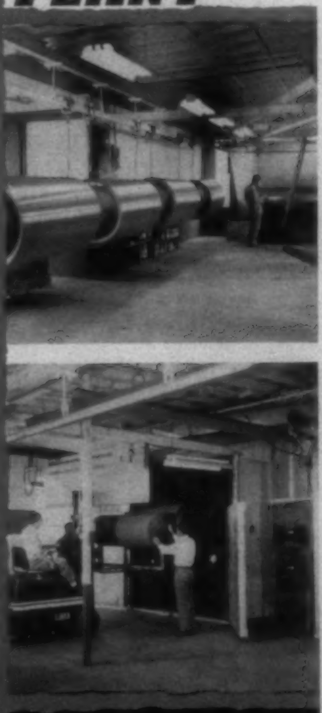

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fuzzing, snagging and pulling after laundering. Celacrimp's lofty texture is resilient and is said to resist crushing.

(Request Item No. I-7)

Liquid Softeners And Mercerizing Penetrant

The Tennessee Corp., Atlanta, Ga., has announced the availability of two new liquid softeners for cotton fabrics and an acid mercerizing penetrant. Tennesoft 23-59 and 29-73 are said to provide excellent softening action for cotton and cotton blended fabrics. According to the company, the high initial absorbency in softened fabrics is retained after washing. They feature freedom from discoloration due to heat or ultraviolet light and true compatibility and performance with optical whites. Compatibility with thermosetting resins and bacterostatic agents is also claimed for the new softeners.

No predissolving or heating of the softeners is required, according to Tennessee. They are recommended for finishing terry or huck toweling, sheetings, diapers and knitted cotton fabrics. They may be used as sole finshing agents or in combination with thermosetting resins.

The new mercerizing penetrant is Sul-Fon-Ate BL Acid, a non-cresylic acid penetrant. It acts as a wetting agent and penetrant in caustic soda strengths up to 25%. It is water soluble and its wetting power is not impaired by exposure to concentrated caustic soda at elevated temperatures, the company reports.

Carbon, cotton waxes and starch byproducts present in greige mercerizing caustic are said to have no harmful affect on the wetting action of the penetrant.

(Request Item No. I-8)

Panel-Mounted Tachometer

A new panel-mounted fixed tachometer has been designed by the Metron Instrument Co., Littleton, Colo., with three switch-selected ranges and a full-range accuracy of 1%.

This is the Type 47M unit, and features high-visibility indicator, unit construction, and simplicity of installation. Panel mounting of the indicator requires approximately 4¾" x 4¼" of panel space, plus any convenient location for the range selector switch. The Metron pick-up head may do its work as far as 1,000 feet from the indicator

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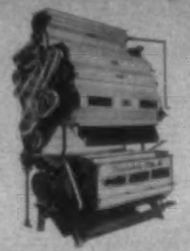

"WITH LUBRIPLATE LUBRICANTS—NO BEARING LOSS FOR AN ENTIRE SEASON"

so states a well-known manufacturer of Cotton Gin and Oil Mill Machinery

"We have gone to great expense in checking lubricating greases out in the field and find the best to be LUBRIPLATE. Over a season's test we found that out of all the greases tried LUBRIPLATE was the only one that did stand up under all operating conditions throughout a season's run without loss of a single bearing."

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LUBRIPLATE is available in grease and fluid densities for every purpose . . . LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.

For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK" . . . a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.

unit, which makes the Type 47 especially useful for installation in elevators, conveyors, or other materials handling equipment.

Available also in a single-range model Type 47S, these tachometers register either rotating (in r.p.m.) or belt speeds (ft./min. or in./min.), and indicator scales are furnished accordingly. The units have no brushes to wear out, and the single moving part rotates in permanently lubricated, double ball-bearings.

(Request Item No. I-9)

Telemeter Receiver

A new line of 4" chart width telemeter receivers, Series 670, has been introduced by The Bristol Co., Waterbury, Conn.

Designed to fit any Metameter telemetering system, the new instruments are offered with one or two pens. Each pen is available with one or two retransmitting slidewires, and a maximum of four individually adjustable alarm contacts. Each alarm contact has an individual scale. Two of the maximum eight alarm contacts can be set from the front of the instrument.

Other features include brightly colored, distinctively shaped pointers, a new capillary inking system, and a new removable chart drive for easy chart changing.

(Request Item No. I-10)

Polyurethane Surface Lubricant Introduced

Soluslip-SL, a new compound for lubricating the polyurethane surface of laminated fabrics, has been introduced by Soluol Chemical Co., West Warwick, R. I. This 35% active silicone emulsion is described as an effective lubricating agent, offering ease of preparation and application. It is readily dilutable with cold water to obtain the 6 to 10% concentration which provides adequate lubrication for most requirements. It may be applied by any contact procedure, reverse rolls being one accepted method. The product has excellent stability and any unconsumed quantity of the dilute working emulsion may be stored for future use, according to Soluol. The application of Soluslip-SL on polyurethane foam is designed to facilitate the handling of foamed surfaces on the cutting table and affords optimum lubricating properties for cutting, sewing and fabricating this type of laminated fabrics.

(Request Item No. I-11)

Cavitomic Test Spray

A new Aerosol spray designed to aid in the testing of baled cotton for cavitomic damage has been introduced by General Aerosols Inc., Shelton, Conn. This test spray is said to detect the presence of microbiological damage known as cavitoma and to thus simplify the grading of baled cotton.

The new spray for the detection of high pH cotton is said to offer several advantages over previous tests. It is fast, convenient to carry for field or warehouse testing and is less expensive than other test methods. Time for the test is from 10 to 60 seconds. Cost is less than three cents per bale. The older methods for cavitomic detection require laboratory facilities and personnel, are more time consuming, more expensive and less portable, General reports.

(Request Item No. I-12)

Disperse Dyes

Sandoz Inc., New York City, has added four new disperse dyes in its Foron line. All are described as suitable for use on polyester fibers, and are said to be superior in fastness to any available dyes similar in shade.

The four are: Foron Red FL ultra-dispersed Pat., described as "the first true, full red" (in disperse dyes) with all-around fastness properties; Foron Rubine GFL ultra-dispersed, a rubine which is fast to light, washing, sublimation, perspiration, pleating and dry cleaning; Foron Scarlet BWFL ultra-dispersed p.a.f., a bluish scarlet with

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SEYCO Shuttle Dressing

It keeps the shuttles in good condition, lubricated and smooth - - - - without making them so slick that they bounce out of the box.

Especially good for protecting fine filament yarns.

Every little bit helps.

A good superintendent knows that the little things add up in helping to turn out both quality and quantity.

The carefully designed package in which SEYCO Shuttle Dressing is packed keeps it clean and makes it easier for your loom fixer to use.

Get him some today . . . . it's handy and economnical.

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing, Waxes.*

Wet Processing Chemicals and Auxiliaries: *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

Seyco Warp Lubricator.

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daylight fastness of L 6-7; Foron Yellow Brown 2RFL ultra-dispersed Pat., which is being recommended as a base color for tan or brown shades on polyester and polyester/wool blends. The red, rubine and scarlet are said to be suitable for high temperature dyeing.

(Request Item No. I-13)

Belting Splicer

Extremultus Inc., Englewood, N. J., has announced the development of a machine that will automatically produce perfect laps in its polymer-core belting, saving belting users expensive skilled hand-labor time and possible belt wastage. Available in both 6 and 20" widths, the new unit is designed to cut a finished 30° angle splice as compared with previously available equipment, which produced only square laps. The 30° angle is said to increase splice strength as the whole closure does not hit the pulley at the same time.

In addition, the machine provides the different tapers required for the leather and plastic in the belting. In one automatic operation, the machines eliminate the marking of laps, and produce the finished 30° angle splice with the two different tapers required for leather and plastic.

(Request Item No. I-14)

Two-Dimensional Viewer For Thread Inspector

Lindly & Co., Mineola, N. Y., has announced the availability of a new two-dimensional viewer attachment for the Lindly thread and line inspector.

The new viewer, according to the company, incorporates an optical system with four prisms which causes the thread to be examined simultaneously from two sides, so imperfections cannot be obscured. This optical system splits the single beam of light from the source into two halves. These two new beams are then made to intersect each other at 90° in the center of the viewing fixture on the axis of the material being examined. Finally the two beams are re-combined to form a single one which enters the photoelectric unit. Thus, regardless of the position of the defect as it passes through the fixture, it will affect the light in one or both beams. This creates an electrical impulse which is put to use in the electronic control unit for counting or operating a stop motion. Material being inspected can be run through the inspecting unit at speeds of more than 400 y.p.m., Lindly reports.

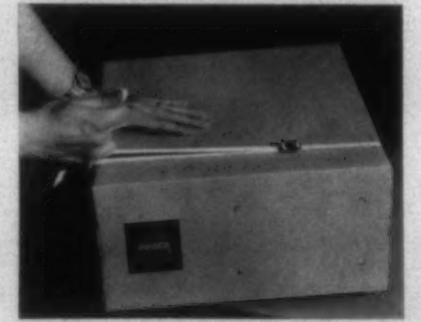
The Lindly two-dimensional viewer attachment for its thread inspector permits examination of the thread simultaneously from two sides.

It was stated that because of the photoelectric and optical principles on which the thread and line inspector equipped with the two-dimensional viewer operates, defect analysis by this means closely simulates visual inspection. The photomultiplier tube used in this equipment "sees" imperfections in almost exactly the same manner as the eye, and is not influenced by the moisture content of the yarn or humidity of the surrounding air.

The new two-dimensional viewer is offered as an accessory to the Lindly thread and line inspector detecting head, and can be used with either the new Series 1000 or the older Series 600 detecting heads with standard Lindly Yarn Inspector control units.

(Request Item No. I-15)

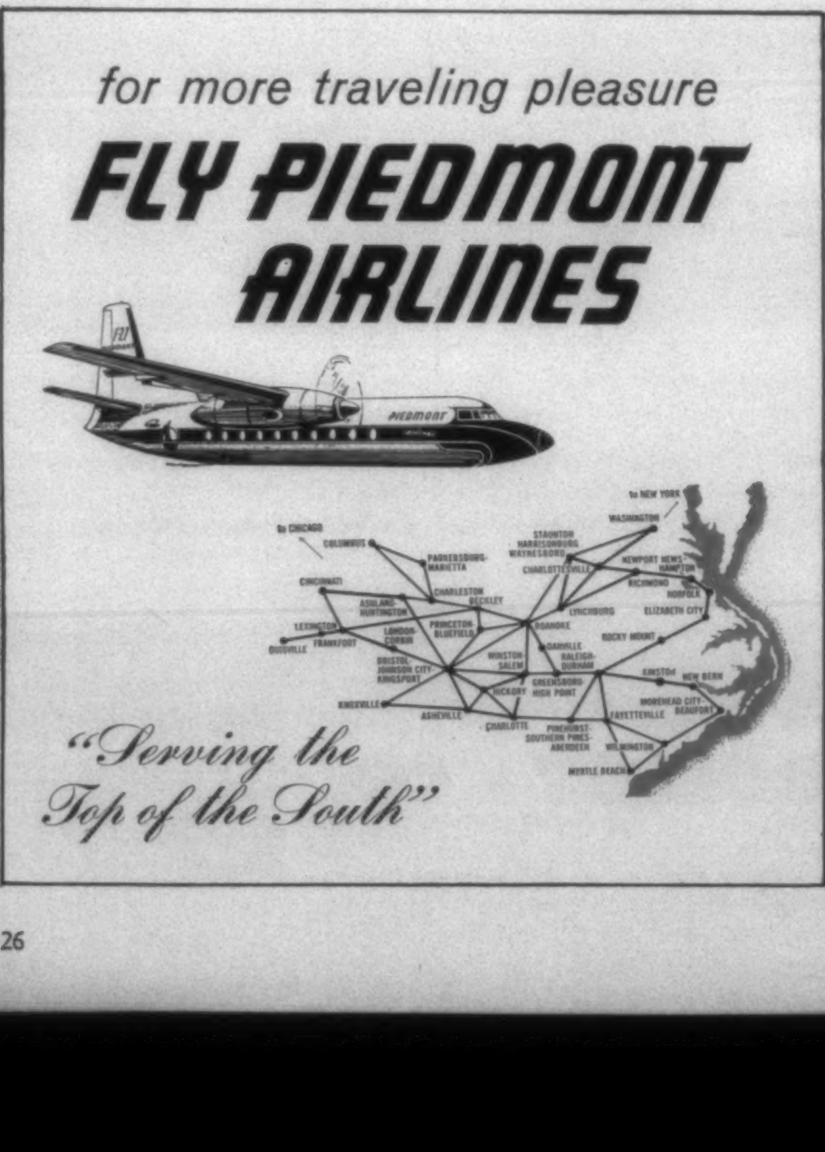
Cord Strapping Buckles



One-piece, galvanized steel buckles, designed and patented for use with Avistrap cord strapping, are now available from the industrial packaging department of American Viscose Corp., Philadelphia, Pa., maker of Avistrap rayon strapping.

Model AVB buckles are offered for all widths of Avistrap, from 1/4 to 3/4", and including the heavy-duty 3/8 and 3/4" widths.

Designed for easy application to all types and sizes of cartons and packages,



for more traveling pleasure

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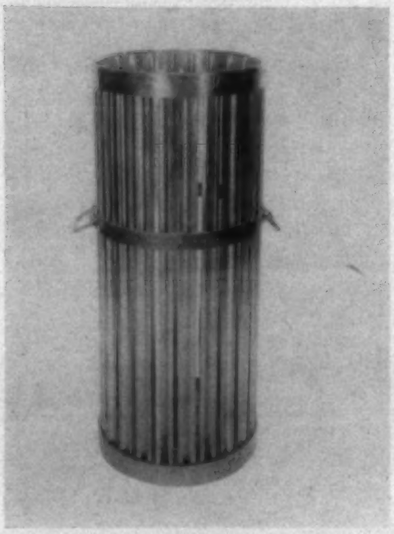
"Serving the Top of the South"

Avistrap buckles require no tools and assure at least 90% joint efficiency, the company reports. The speed of applying the one-piece buckle is said to be equal to or faster than that of metal strapping combination tools in many cases.

Settling loads may now be re-tensioned with one-piece tools, thus eliminating any possible need for re-strapping. Pre-cutting of strap is not necessary; it can be applied to all types of containers direct from the Avistrap coil. Both the new buckles and the rayon strapping are reusable, if desired; there is less than two inches of waste when buckled Avistrap is reused, the company reports.

(Request Item No. I-16)

Slatted Turbo Cans



Jenkins Metal Shops of Gastonia, N. C., has developed a round slatted aluminum Turbo can, for use on turbo operations and fiber setter operations on synthetic fibers.

The company reports that use of the cans will provide a production increase of 40% and an improvement in the quality of finished stock. Used in conjunction with a coiler or turntable, stock is coiled into round cans having greatly increased capacity. Stock can be removed directly from turbo machines to creels for second operation or to fiber setter cabinets for steam shrinkage.

(Request Item No. I-17)

Acrylic Resin Binder

Excellent durability to laundering and drycleaning, superior stability, high film strength and good abrasion resistance are cited as characteristics of a new acrylic resin textile binder recently developed by Rohm & Haas Co., Philadelphia, Pa. The new product, known as Rhoplex HA-16, becomes the fourth member of the Rhoplex HA-series of acrylic resin dispersions now offered the textile industry by the company. Other members of the group are Rhoplex HA-4, Rhoplex HA-8 and Rhoplex HA-12.

The resins of the Rhoplex HA-series are mutually compatible copolymer dispersions, offering textile manufacturers a full range of binders from the very soft Rhoplex HA-4 to the very firm Rhoplex HA-16—the firmest, driest resin in the series. Any intermediate degree of firmness is said to be possible through various combinations of the four members of this series. Dryness, hand and film strength are also easily varied. This flexibility of formulation is described by the company as a valuable aid in the bonding of nonwovens, as well as in the backcoating and finishing of woven textiles.

Rhoplex HA-16, alone or in combination with other resins of the series,

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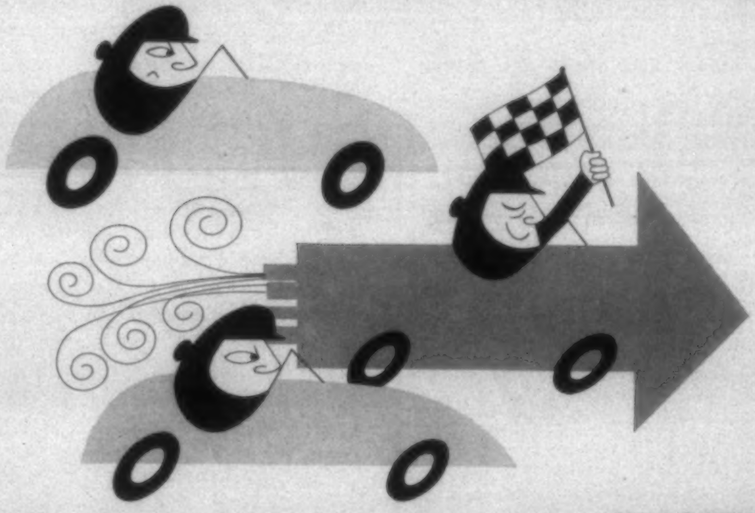
for extra-fast desizing!



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may be crosslinked simply by adding a latent acid catalyst—such as Rohm & Haas Catalyst A—and curing at moderate temperatures. The use of oxalic acid is recommended only where simultaneous drying and curing is intended, as resin catalyzed with oxalic acid cures at temperatures below 225° F. in a relatively short period.

The resin can be applied by spray as well as saturation techniques in the production of nonwoven fabrics. Development work carried on in co-operation with various textile firms is said to have demonstrated that the new resin is particularly useful in the spray bonding of synthetic fibers used in batting form. Here it is said to achieve effective control of fiber leakage, even after laundering. In synthetic or cellulosic nonwovens, tack is minimized and loft is maintained. Rhoplex HA-16 is also useful as a drying agent for decreasing residual tackiness of soft resins, as a hand modifier for cellulosic and synthetic fabrics, and as a reinforcing agent for softer acrylates or other resins.

For the backcoating of fabrics, Rhoplex HA-16 is suggested as a means of modifying the hand and tensile strength. It is useful in tufted fabrics where maximum tuft lock is necessary. For soft backings, the addition of a small amount of the new resin is said to be helpful in minimizing residual tackiness. Where durability to wet processing is required, as in the backing of furniture fabrics which are dyed after coating, the formulation can be crosslinked with an acid catalyst. This necessitates the use of a neutral thickening agent. When wet processing is not a factor, the acid catalyst can be left out of the formulation and an alkaline thickener can be used.

Rhoplex HA-16 is also proposed as an additive to resin finish formulations to impart hand and strength. When a degree of rigidity is required, this polymer may well serve as the sole finish.

(Request Item No. I-18)

Delustering Finish

A new finish, said to impart high degrees of delustering and flexibility to woven or knit fabrics, has been introduced by W. F. Fancourt Co., Philadelphia, Pa.

Called Liq-Dull 63, the new finish is designed to provide an unusual leveling ability along with delustering and to give flexible body with an even drape.

It may be used on natural or synthetic fibers, and on both bleached and dyed goods. It is compatible with other Fancourt finishes and when used in conjunction with Nydull or Nydull LB, enables these finishes to penetrate the tightest folded goods, according to Fancourt.

(Request Item No. I-19)

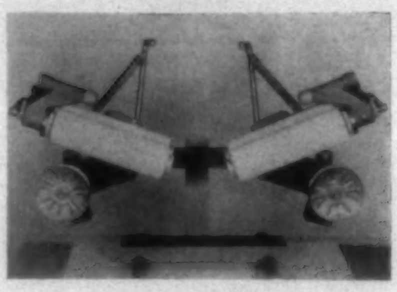
Slipping Process Designed For Polyurethane Foams

Reeves Bros. Inc., New York City, has announced that its Curon laminating plant in Garfield, N. J., has developed a simplified process for post-treatment of laminated fabrics designed to make them slippery.

This new treatment makes Curon laminated fabrics easier to sew, as they can glide and slide under the plate with ease. Called Curon E-Z, it is available on request at the Garfield plant and facilities for this special treatment are being installed in the Curon of California plant in Los Angeles.

(Request Item No. I-20)

Precision Guiders



Mount Hope Machinery Co., Taunton, Mass., has developed two new models of its Precision Guider designed to provide cost-savings for manufacturers who do not have severe acid conditions in the processing of textiles. The new units—Models A and B—are said to perform in exactly the same manner as the standard Model S stainless steel guider, assuring accurate lateral alignment of materials ranging from the heaviest of fabrics to the lightest, most sensitive of films. They are less expensive because they are fabricated of aluminum and cadmium-plated steel.

Model A, with aluminum frame and stainless steel accessory parts and nip roll denippers, is geared to wet and mildly acid service. Model B, which is fabricated of aluminum but has some accessory parts made of cadmium-plated mild steel, is designed for dry or damp service. Economy Model B does not have denippers.

Precision Guiders were the first web control devices designed and manufactured by Mount Hope Machinery Co. and are the products on which the company originally was founded. Continued rise in steel costs, coupled with technological advancements in the uses of aviation aluminum, brought about the development of the newer models.

Mount Hope Precision Guiders are designed to provide instantaneous detection of misalignment in processing and automatically adjust for the indicated deviation by tilting a pair of nip rolls—one pair for each selvage. The nip rolls exert a gentle pushing and pulling action on the selvage accomplished by the gradual tilting of the rolls to hold the web in alignment. The sensing element is a grooved and fluted selvage wheel which controls the angle of the nip roll. The web travels between these rotating wheels which hold and control the selvages gently by means of spring pressure.

These mechanical devices are designed for minimal maintenance since there are no electric switches or coils to burn out and no air valves to clog or leak.

(Request Item No. I-21)

Polyethylene Tanks

A new, low-cost line of molded polyethylene tanks designed for handling and storing materials—solid or liquid—is now being marketed by Apex Reinforced Fibre-Glass Division, White Sewing Machine Corp., Cleveland, Ohio.

Available in 11 sizes, the new tanks are said to permit safe-handling of corrosives, prevent contamination, are unbreakable, light weight and easy to clean. Seamless molded for extra strength and rigidity in severe service, Apex polyethylene tanks are designed to outlast metal, cost less than stainless steel.

The tanks are chemically inert even to such highly corrosive materials as hydrofluoric and hydrochloric acids, concentrated sodium hydroxide and alkaline solutions. They will withstand temperatures to 180° F.

(Request Item No. I-22)

For the Mill Bookshelf

Dust Filter

An 8-page bulletin describing the DAY Type RJ dust filter has been published by The DAY Co., Minneapolis, Minn.

The bulletin details, with diagram, the design and construction of the RJ dust filter. Installations are pictured and described and complete data is given for the dimensions and specifications of single and multiple units.

(Request Item No. I-23)

Soap-Dispensing Systems

Four different systems of dispensing hand soaps in washrooms are described and evaluated in Engineered Maintenance Data Sheets 540 A & B, available from Puritan Chemical Co., Atlanta, Ga.

The report, which mentions no brand names of dispensers or soaps, impartially evaluates the various advantages of powdered soap systems, liquids, lathers, and cake soap systems. Results of usage tests conducted by the Institute of Sanitation Management, a nation-wide association of sanitation supervisors, are given in the sheets.

The data also includes suggestions for mounting, operation, and care of soap dispensers of all types.

(Request Item No. I-24)

Organic Acids And Anhydrides

A new 48-page booklet, describing the properties and uses of its organic acids and anhydrides, has been published by Union Carbide Chemicals Co., division of Union Carbide Corp., New York City.

The booklet contains comprehensive data on acetic, propionic, butyric, 2-ethylbutyric, 2-ethylhexoic, acrylic, sorbic, valeric, and isodecanoic acids; acetic, propionic, and butyric anhydrides.

Included is information on physical properties; constant-boiling mixtures; specification limits; test methods; storage, handling and shipping; toxicological properties; and selected literature references.

Organic acids are used mainly as in-

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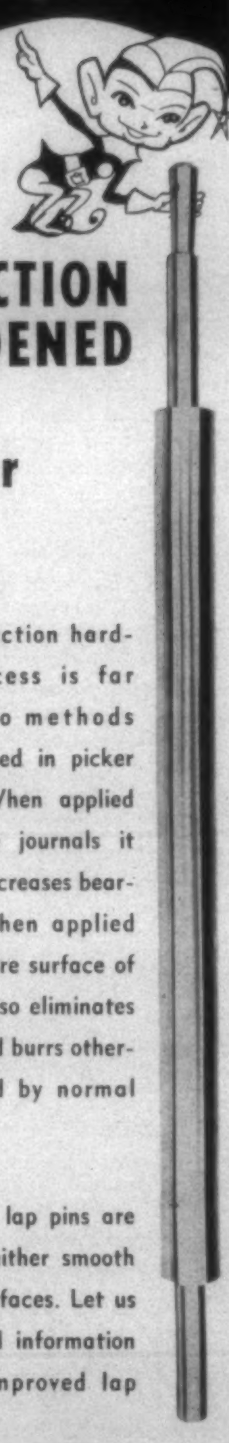
Picker Lap Pins



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termediates and acidifying agents while the anhydrides find their main application in the formation of esters under conditions where no reaction would take place with the corresponding acid.

One or more of the acids, or their derivatives, can be used as solvents; esterifying, acidifying and neutralizing agents; extractants; and epoxidizing agents.

(Request Item No. I-25)

Silicone Antifoams

An 8-page illustrated booklet from the Hodag Chemical Corp., Skokie, Ill., outlines the use of its silicone antifoam agents in the solution of foaming problems. Prescribed levels for the use of the antifoams are given in comprehensive tables of properties. The data tabulated is useful in the selection and application of Hodag silicone antifoams to foam problems encountered in both aqueous and non-aqueous systems.

The booklet also describes the company's technical services department which is able to simulate a wide variety of manufacturing processes in its newly expanded laboratory.

(Request Item No. I-26)

Polyvinyl Alcohol

Air Reduction Chemical & Carbide Co., New York City, has made available a new comprehensive bulletin discussing its Vinol fully hydrolyzed polyvinyl alcohols. The 16-page bulletin covers the uses and physical properties of its Vinol PVA resin and film.

The polyvinyl alcohol, as a resin, is said to provide high binding efficiency and good tensile strength with flexibility when used as a warp sizing. Vinol sizes are recommended for warp sizing of cotton and synthetic yarns and cotton-synthetic mixtures and can be applied by standard methods to warp yarns.

Vinol is also recommended for use in wrinkle resistant wash-and-wear finishes for imparting improved stiffness and body to the fabric. Such formulations are based on cellulosic reactants used to confer wrinkle resistance properties. During heat setting, the polyvinyl alcohol is linked to the reactant. The stiffness and hand of the fabric are determined by the amount of Vinol added to the formulation.

(Request Item No. I-27)

Two-Dimensional Viewer For Thread Inspector

Lindly & Co., Mineola, N. Y., is making available a bulletin describing its two-dimensional viewer for its widely accepted Lindly thread and line inspector. The two-dimensional viewer incorporates a new optical system with four prisms which permits the thread to be examined from two sides, so that imperfections cannot be obscured.

(Request Item No. I-28)

Textile Belting

More than 50 illustrations of increased textile mill efficiency through the use of Extremultus power transmission belting are highlighted in a new 12-page special textile industry brochure from Extremultus Inc., Englewood, N. J.

Demonstrating improved belting applications ranging from opening and picking through carding, combing, roving or twisting, weaving and finishing, the new Extremultus booklet pictorially illustrates the cost and time savings provided by its nylon-core belting.

Extremultus belting has a friction surface of specially chrome-tanned leather, bonded to a flexible, oriented nylon-type polymer core. By combining the strength and elasticity of the polymer core with a leather having a higher co-efficient of friction, Extremultus reports that it has been able to provide the textile industry with a transmission belt giving vastly improved performance over conventional belting.

(Request Item No. I-29)

Processing Chemicals

A condensed listing of the more important processing chemicals available from its industrial division has been published by Nopco Chemical Co., Newark, N. J.

The 4-page bulletin lists the broad general categories of products and shows the chemicals and types available in each. Also included are descriptions of chemical class and uses for each.

Categories included are surfactants, hydrosulfites and sulfoxylates, defoamers, resin and wax emulsions, water-soluble lubricants, water-soluble resins, softeners and gas-fading inhibitors. Also listed are enzymes, metallic soaps, stabilizers and inorganic compounds.

(Request Item No. I-30)

Anti-Static Lubricants

The organic chemicals division of Emery Industries Inc., Cincinnati, Ohio, has released Technical Bulletin No. 423, which describes the company's newly introduced anti-static lubricants, Emer-

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stat 7450 (high fiber-to-fiber lubrication) and Emerstat 7451 (featuring fiber-to-fiber cohesiveness). The booklet lists product properties, comparative evaluations and suggested methods of application.

(Request Item No. I-31)

High-Speed Computer

Minneapolis - Honeywell's Electronic Data Processing division, Wellesley Hills, Mass., is offering a new brochure, "For Better Business Control," outlining the applications and specifications of the medium-scale Honeywell 400 computer.

The brochure describes the many applications in which the high-speed computer can bring more streamlined control to business record-keeping and cut the costs of handling paperwork.

Automatic programming aids and specifications of the Honeywell 400 system components are listed.

(Request Item No. I-32)

Magnetic Drives

Louis Allis Co., Milwaukee, Wisc., has published Bulletin No. 3650 on its magnetic adjustable speed drives.

Available in ratings from 50 through 2500 h.p., the magnetic drive can be applied in many varied applications including calenders, pumps, etc.

The bulletin describes in detail the basic components of the magnetic drive theory of operation, controls and design features. Some of the features of the unit include stationary field coil construction, liquid or air cooled clutch system and an a.c. tachometer generator.

Controls supplied for the drive are available in the standard electronic controller as well as the optional transistorized controller.

(Request Item No. I-33)

Natural Polymer Fibers

"Natural Polymer Man-Made Fibres," by C. Z. Carroll-Porczynski, has been published by Academic Press Inc., New York City. The book gives a general picture of manufacturing methods and properties of man-made fibers, explaining how the improvement in physical properties such as fiber strength, toughness, resistance to abrasion and increased dimensional stability has opened up immense new industrial applications. All the more recent patents are also reviewed by the author.

The volume includes the history and development of man-made fibers; data covering viscose rayon, modified viscose rayon, applications of high tenacity viscose rayon filaments and staple fibers; information concerning cellulose acetate and its many properties; an appendix giving the manufacturers of viscose rayon and trade names; data on rubber threads; and others in its 23 chapters and appendices.

It is available for $9.50 per copy from Academic Press Inc., 111 Fifth Avenue, New York 3, N. Y.

Foam Laminate Handbook

The Apparel Institute Inc. has announced the availability of the "Foam Laminate Handbook" which is described as the first technical work about foam for apparel manufacturers. The 64-page book covers all aspects of the field, including the history of foam, handling, cutting and sewing, sizing and laminating. The book is 9x12" in page size and is available at $1 from the Apparel Institute Inc., 1140 Broadway, New York 1, N. Y.

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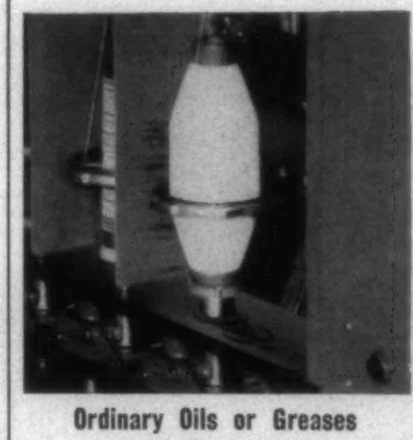

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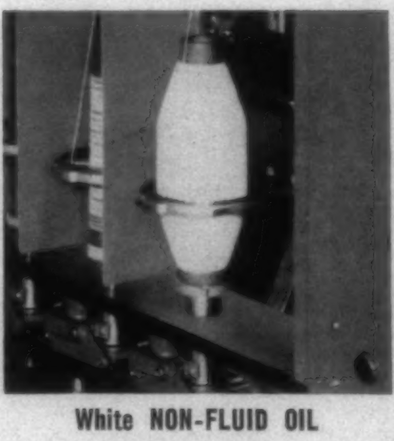

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- White NON-FLUID OIL is neutral and does not become gummy . . . it lasts longer on wearing surfaces than ordinary oils or greases.
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Serving The Textile Industry

Foster Machine Opens Its New Branch Office

Foster Machine Co., Westfield, Mass., held open house July 27 at its new branch office at Belmont, N. C. More than 400 invitations were sent out to members of the textile industry inviting them to come and inspect the premises and one of Foster's Model 506 automatic yarn winders in action.

The new building is a brick and cement block structure with some 12,000 square feet of area. It houses air conditioned offices, a permanent show room and a warehouse for parts used on Foster units. It's situated on a hill, overlooking Interstate Route 85 and the new U. S. 29 bypass around Charlotte. The site was chosen, according to Paul Farmer, general sales manager for Foster, because of the new highway; the possibilities for growth in the area; and the proximity to a great number of Foster's customers.

For its open house, Foster had one of its Model 506 units running with traverses of six, eight and ten inches. These different traverses do not come on a single unit, however. Each unit to be sold will be of a specific traverse, but can be converted.

Foster officials attending the open house ceremonies included Edward C. Conner, president; John Loizer, treasurer; Edward Bridgman, personnel director; and Mr. Farmer.

Six Months Sales, Profits Up At Crompton & Knowles

Crompton & Knowles Corp., Worcester, Mass., had net earnings of $1.5 million for the first half of 1961 on sales of $16.6 million. This compared with earnings of $1.4 million on sales of $14.5 million in the first half of '60. The company reported that its diversified businesses on the whole have comfortable backlogs, and look good for the balance of the year and beyond. However, the picture for weaving equipment, it reported, is spotty, alleviated somewhat by international operations. The repair business is said to be good. Incoming orders from domestic mills for new machinery are currently disappointing, the company reported.

DIXON CORP. HAS COMPLETED THE TRANSFER of its textile machinery division from Bristol, R. I., and Charlotte to its new 25,000-square-foot plant in Monroe, N. C. Production in the two former plants terminated in June and the new facility is now in full production. To serve customers in New England and Canada, the firm will continue to maintain a district sales office and parts depot in Bristol where Dixon still operates a plant primarily devoted to fluorocarbon plastics. To date drafting modernization, steel rolls, roll stands, lifting rods, special bearings and textile machinery repairs have been Dixon's chief activities. But with the expanded facilities, the company has launched a program to broaden its operations include new textile machinery products.

Whitin Reports Sharp Drop In First Half Net Income

Whitin Machine Works reports after-tax earnings of $863,000 for the first six months of 1961. This represents per share earnings of $1.20 as compared with $3.56 for the same period in 1960. Sales for the first half were $33.2 million as compared with $35 million for the corresponding period last year.

Jenkins Metal Purchases Gastonia Clearer Cot Co.

Jenkins Metal Shops Inc. of Gastonia, N. C., has announced the purchase of the Gastonia Clearer Cot Co. The Gastonia Co. will be a division of Jenkins and will continue to make clearers for the textile industry along with other wooden textile supplies.

Jenkins now furnishes the textile industry with sheet metal fabrication work; material handling equipment; stamping and contract work; metal plating and finishing; and engineered products such as screeens, card plates, dynamically balanced cylinders, etc.

Draper Reports Sales Up, Profit Down In First Half

The Draper Corp. reports earnings of $1.6 million for the six months ended June 30 as compared with $1.8 million for the first half of 1960. Sales for the period totalled $32.2 million against $31.2 million last year. The company reports that limited production of its recently acquired automatic doffing machine will begin early next year.

Pomeranz Sees Tremendous Growth For Roberts Sales

Textile machinery manufacturing has become a dynamic growth industry according to Robert Pomeranz, president of Roberts Co., Sanford, N. C. Addressing the New York Society of Security Analysts at a luncheon meeting recently,

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1926 "IF IT'S PAPER" 1961

Pomeranz projected strong growth in textile machinery sales and earnings for his company in domestic markets, and a particularly broad expansion in world markets. He said that President Kennedy's tax credit plan on money spent to modernize industrial equipment could spur a significant increase in the modernization of textile mills. "We have quoted on $10 million worth of business since the plan was first announced, and a good part may now be closed," Pomeranz reported.

Noting a great demand from all areas of the world for high quality American textile machinery because of better technology, higher production speeds and lower operating costs inherent in such equipment, Pomeranz announced receipt of a $625,000 contract for 50 Arrow M-1 spinning frames from South Vietnam, under International Co-Operation Administration auspices as part of the Foreign Aid Program. This represents the first installation of American spinning equipment in that country and Roberts' largest contract from an Asian country.

Roberts also received in the past three months other contracts from outside the U. S. for an additional $1,100,000. "We are actively trying to respond to President Kennedy's urgent request for increasing exports," Pomeranz reported, "And our efforts are succeeding."

Greenville Textile Supply Named Extremultus Agent

Greenville Textile Supply Co., Greenville, S. C., has been named a Southeastern distributor by Extremultus Inc., producer of power transmission belting. The Greenville Co. serves mills in North and South Carolina, Georgia, Tennessee and Alabama.

Conditions Improve At Enka As Sales, Profits Increase

American Enka Corp., Enka, N. C., reports sales of $48 million for the first 24 weeks of 1961, an improvement of 6% over the $45.5 million sales total for the comparable period of '60. Net income for the period was $1.8 million as compared with $683,000 last year, and $3.5 million for the first 24 weeks of 1959.

Philip B. Stull, board chairman and president, said that while earnings have improved, the situation is still "far from satisfactory." He pointed out that the volume of rayon and nylon shipments for the second 12-weeks period of 1961 was substantially ahead of the same period a year ago and higher than the first 12 weeks of the year. Price and profit margins, however, have not returned to reasonable levels, Stull said. He gave as the reason for narrowed profit margins the continuance of severe competitive conditions in the industry.

ELIMINATING A SAFETY HAZARD—Sonoco Products Co. has demonstrated a new use for its convolute tubes. Nalpac Co., Montreal, Canada, producer of fine laces, was the victim of an accident involving an open drive shaft on one of its machines. Sonoco solved the problem by putting a fiber sleeve—three-inch inner diameter and slit full length—over the shaft. The tube was necessarily larger than the shaft, in this case one-fourth larger, so that the shaft could revolve within it. The sections are fitted over the shaft and are taped together. It is supplied in eight-foot lengths and can be cut to the correct length in the mill.

Merger Of Penick & Ford, Morningside-Paisley Off

The merger of Penick & Ford Ltd. and Morningstar-Paisley Inc., both of New York City, which was approved by the boards of directors of both firms, has been called off because of inability to find a mutually acceptable basis for consolidation of the firms' operations. Under the merger plans Morningstar-Paisley would have operated as a division of Penick & Ford.

Turbo Machine Co. Opens New Southern Sales Office

John R. Stafford, sales engineer for Turbo Machine Co., Lansdale, Pa., has been named to head the company's new Southern sales and service office in Charlotte, N. C.

The Charlotte office will be equipped to handle sales and service on Turbo stapers, crimpers, fiber setters, the Turbo Dye Boarder, finishing machines, tubular knit processing machines and skein and package dyeing machines.

Stafford joined Turbo in 1955 as a toolmaker, was moved to engineering and later to sales. He had previously worked for Textile Machine Works, Reading, Pa., and Synthame Corp., Oaks, Pa.

Saco-Lowell Reaches Two New Milestones

Saco-Lowell Shops, Easley and Greenville, S. C., has reached two milestones in its products and services to the textile industry. Nearly 3.5 million New Era spindles are currently in production over the world and more than 3,000 visitors connected with the textile industry have toured the customer sales demonstration department of the company in Greenville since its opening in 1958.

The company reports that actual in-use tests of the New Era spindles have shown savings in power, oil and maintenance through the use of sealed ball bearings, which only have to be lubricated every four or five years.

There were some 150 foreign visitors included in the 3,000 persons touring the Saco-Lowell facility. They were sent over for a period of indoctrination

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and training in the operation of the company's equipment. Student groups from several schools have spent periods of time in the department as an extension of their educational training. The department was opened to visitors to the Southern Textile Exposition in 1958 and again in 1960 when more than 1,000 people toured the facility.

Southern States Equipment Now Southern States Inc.

Southern States Inc. is the new name for Southern States Equipment Corp. of Hampton, Ga. For 44 years the company has been known as "Southern States" throughout the industries it serves. The change in corporate signature is intended to acknowledge this with a more descriptive and concise company name.

American Rieter To Build New Spartanburg Facility

American Rieter Co., West Caldwell, N. J., textile machinery firm with Swiss headquarters, will construct a new plant in Spartanburg, S. C., within the next year, according to John Dulken, vice-president and sales manager.

The new plant will employ some 50 skilled persons, it is reported. The firm will probably close its Greenville, S. C., sales office when the plant is completed. The New Jersey plant will continue in operation. Details on the size and cost of the new plant were not given.

Corn Products Takes Over Sales Of Nemo Jet Cooker

Corn Products Sales Co., New York City, has taken over the sales of its Nemo Jet Cooker, which will be handled through its own sales representatives. In making the announcement of the sales change, the company said that the three firms with licensing agreements to manufacture and sell the Nemo Cooker will continue to manufacture it. The firms are: Cocker Machine & Foundry Co., Gastonia, N. C.; Greenwood Mfg. Co., Atlanta, Ga.; and West Point Foundry & Machine Co., West Point, Ga.

Roberts Co. Acquires Charcoal Producing Firm

Roberts Co., Sanford, N. C., has acquired as a subsidiary Black Panther Co. of Sanford, which produces charcoal and chemicals. The company was acquired in a stock exchange. Roberts will continue to operate Black Panther's Sanford charcoal producing plant. In addition to charcoal, the firm produces insecticides and fuel oil additives.

Whitin, Meadows Become Enterprise Inc. Licensees

Ronald H. Marks, president of Enterprise Inc., Dallas, Tex., has licensed Whitin Machine Works and Meadows Mfg. Co. of Atlanta to conduct research and development on the Marks' system for slitting and twisting paper and other materials. Both firms will make available equipment for the Marks' slitting-twisting process.

Under the Whitin agreement, Whitin is sending a twister to Enterprise Inc., and a Marks' slitter has been installed in the Whitin research and development division. Meadows Mfg. has been the chief supplier of twisting equipment to Marks' licensees to date.

National Starch Announces Sales, Earnings Increase

National Starch & Chemical Corp., New York City, reports net sales of $16.4 million for the quarter ended June 30 as compared with $15.7 million in the comparable period of '60. Net income after taxes totalled $2.3 million as compared with $1.9 million last year.

W. M. Hall Named Sales Agent For Fibertrol System

W. M. Hall & Sons, Belmont, N. C., has been named exclusive sales agent for the Fibertrol system of Motion Control Inc., Dallas, Tex. This line includes the Fibronaire and Fiberweigh. In addition to these, Hall will act as sales agent for the Texas firm's cotton Tensilomer, Fiberscanner and Colorimeter. The cotton Tensilometer measures tensile strength and elongation of cotton fiber semi-automatically. It has its own miniature transistorized computer and is capable of an automatic readout of 200 samples per hour.

The Fiberscanner measures lengths and length distributions in the cotton fiber beard, giving an automatic printed readout in the $\frac{1}{16}$-inch length groups similar to the Suter Webb technique. This instrument is capable of a production rate of 400 samples per hour.

Motion Control's Colorimeter is a fully automatic ultra stable transistorized unit which has an automatic printout and is said to be capable of a production rate in excess of 6,000 samples per day.

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Greensboro Loom Reed Co., Inc.
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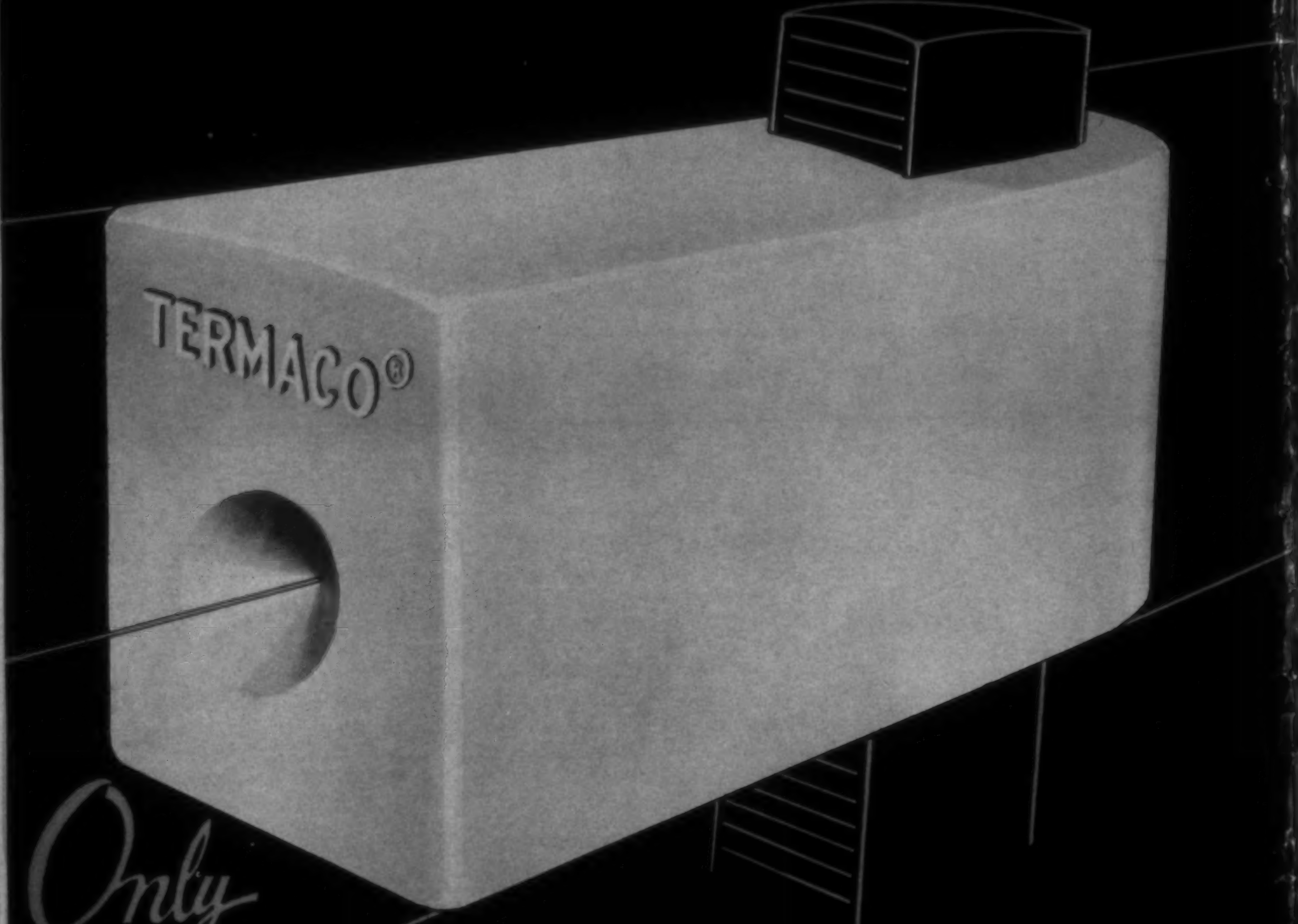

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CHARLOTTE, N. C.

textile bulletin

VOL. 87 SEPTEMBER 1961 NO. 9

The Agreement At Geneva: First Step To What?

HERE'S A RUN-DOWN ON TERMS PROPOSED IN THE RECENT GATT CONFERENCE OF WORLD'S MAJOR TEXTILE TRADERS

THE terms of the international cotton textile agreement reached at Geneva, Switzerland, in July at a meeting of the major textile importing and exporting countries*:

(1) Sets out certain basic principles and objectives;

(2) Makes short-term arrangements for cotton textile trade problems during the 12-month period beginning October 1; and

(3) Provides for the establishment of a Cotton Textile Committee to develop a longer term solution by next April 30.

The agreement recognizes the need for co-operative and constructive action for the development of world trade, notes the disruption aspects of the cotton-textile market, and sets the goal of dealing with the trade problems in such a way as to provide growing export opportunities, but in a "reasonable and orderly manner."

Short-Term Effect

An arrangement for the 12-month period beginning October 1 is included in the proposed agreement to deal with the immediate problems pending development of a longer-term solution. These arrangements are intended:

- To increase access to markets where imports are at present subject to restriction;
- To maintain orderly access to markets where restrictions are not at present maintained; and
- To secure from exporting countries, where necessary, a measure of restraint in their export policy so as to avoid disruptive effects in import markets.

If, during this period shipments of cotton textiles from a participating country causes or threaten disruption of an importing country's markets, the latter country may call for restraints by this exporting country for any of the 64 categories of cotton textiles specified in the agreement. The requested level of restraint may not be lower than the level during the 12-month period ending June 30, 1961. If arrangement on restraint is not reached within 30 days, the importing country may take a unilateral action to limit the imports in question.

There are also provisions against undue concentration of particular export items within categories, against frustration of these arrangements by non-participants, by trans-shipment, and by substitution of directly competitive textiles. In particular, the substitution problem may—under certain circumstances—be dealt with by unilateral import restrictions.

To widen the world market for cotton textiles, participating countries which now quantitatively restrict imports of these products will "significantly increase access to their markets" by January 1, 1962. A specific statement on this point is expected to be made by certain of the countries concerned.

Long-Term Arrangement

A Cotton Textile Committee, to be established, would be charged with the responsibility of making recommendations, by April 30, 1962, on a long-term solution to the problems in the field of cotton textiles on the basis of specified guiding principles. This committee is to meet on October 9 at Geneva, to begin consideration of the long-term problem.

Agreement was reached in July on an "ad referendum" basis by the representatives of the 16 governments participating in the Geneva meeting. The agreement now goes before those governments for consideration and final acceptance. It will also be open to acceptance by other major textile exporting or importing countries.

(The full text of the Geneva agreement begins on Page 38.)

Will It Work?

The answer seems to lie in the Kennedy Administration's interest in administering and enforcing the agreement. That's the view held by the American Cotton Manufacturers Institute as reflected by the following statement adopted by its board on August 2.

ALTHOUGH the (Geneva) agreement falls far short of meeting carefully considered industry views regarding a reasonable and workable solution to the serious textile-fiber-apparel import problem, it is significant in that it recognizes the need for limitations on cotton goods exports to the U. S. and, under prescribed circumstances, provides the machinery for such limitations. Its effectiveness will depend upon how well it is administered by the U. S. Government.

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*Representatives of the following countries attended the conference in Geneva: Australia, Austria, Canada, India, Japan, Pakistan, Portugal, Spain, Sweden, United Kingdom (also representing Hong Kong), United States, and five member states of EEC (Belgium, France, Germany, Italy and the Netherlands.) Countries represented by invited observers included Brazil, Denmark, Greece, Norway, Switzerland, Turkey and the United Arab Republic.

Not A Complete Approach

It can be considered as a first step toward a solution, but surely not as a complete approach because of these inadequacies:

(1) It is confined to cotton products and leaves difficulties of other fibers untouched; in effect, it neglects to recognize and deal effectively with a basic economic fact of the textile industry of today: The interchangeability and interrelationship of all fibers.

(2) The base period of the agreement as fixed involves an import volume that is too high; imports of nearly eight hundred million square yards, with which the domestic industry has not been able to cope, can be continued only through further retractions at the expense of thousands of textile job opportunities.

(3) The authority to limit imports is only permissive, not mandatory, thus its success in bringing stability to the trade will depend on the effectiveness of its administration. A firm policy could hold imports to the fiscal 1961 level, while a loose administration could bring a further increase.

(4) The duration is for only one year; modern industrial planning for production, research and development necessarily depends upon a long-range outlook and cannot be achieved on a year-to-year basis.

(5) It leaves untouched a major inequity about which the U. S. industry can do nothing: The disparity between the prices paid for cotton by the U. S. mills and those abroad. It does not resolve the fact that as of August 1 the cost of cotton to the domestic industry—as a result of U. S. Department of Agriculture action—advanced three and three-fourths cents a pound over last year's cost, a development accompanied by an increase in the subsidy on U. S. raw cotton exports from six to eight and one-half cents a pound. Foreign textile mills now have an even greater competitive advantage over U. S. manufacturers.

(6) It fails to include any clearcut procedure for dealing with textile exports from non-participating nations; the need for additional safeguards is obvious.

Other Trouble Spots

The agreement is punctuated with other trouble spots, such as the "market disruption" concept and its requirement to request restrictions category by category, rather than on a country-by-country basis, with a breakdown by categories.

Only One Of Seven Points

Repeated assurances from high Administration officials have been given that Point Six of the President's program—from which the Geneva agreement stems—is not intended to be exclusive. Early action on other import features of the program as a supplement to the agreement will very directly influence its value. Thus we urgently recommend to the executive branch the activation of the following suggestions:

(1) That the Department of Commerce be given responsibility for overseeing the implementation and administration of the agreement with the advice and assistance of other appropriate agencies; such assignment falls within the scope of the Commerce Department's responsibility, inasmuch as the agreement will have a direct effect on the nation's economy through domestic textile industry employment and productivity.

(2) That the Secretary of Commerce appoint an industry advisory committee to counsel and assist in discharging U. S. obligations under the agreement.

(3) That a positive statement from the government that market disruption now exists should be the first step in implementing the agreement. The statement of the President which led to the agreement lays an adequate base for an immediate finding that market disruption of the U. S. textile industry has already occurred as the result of current imports.

(4) That in the short-range program covered by the agreement, steps be taken immediately to insure the inclusion of all fibers in the program for import controls.

(5) That the long-range plan for regulating textile imports include all fibers, and that it incorporate a base period that is less burdensome to the U. S. industry than fiscal 1961.

(6) That in complying with the fourth point of the President's program, which relates to eliminating the disparity between cotton prices paid by U. S. and foreign mills, the government establish immediately an import equalization fee on all cotton product imports equal to the cotton export subsidy rate, with adjustments for the manufacturing waste factor.

(7) That the Treasury Department make effective by September 1 a modernized, realistic schedule of depreciation allowances on textile machinery to comply with the third point of the President's program.

(8) That the Office of Civil and Defense Mobilization expedite its handling of the textile-fiber-apparel industry's case under the national security provision of the Trade Agreements Act to comply with the seventh point of the President's program. In light of the urgent need for the nation to prepare for any emergency, it is obvious that textile products imports should not be permitted to interfere with the American industry's ability to meet military and essential civilian textile needs, actually or prospectively.

It's Up To The Administration

It is the considered judgment of this board of directors that, unless the Geneva agreement is aggressively administered and supplemented by the implementation of the above recommendations, it cannot produce effective results and will only aggravate the textile import problem. If the agreement is given aggressive administration by our government and supplemented by other U. S. Government actions, it could substantially lessen the inequities that arise from U. S. Government policies and could contribute importantly to the stability and growth of the U. S. textile industry.

Text Of Arrangements Regarding International Trade In Cotton Textiles

THE PARTICIPATING COUNTRIES recognize the need to take co-operative and constructive action with a view to the development of world trade and that such action should be designed to facilitate economic expansion and in particular to promote the development of the less-developed countries by providing increasing access for their exports of manufactured products.

They take note, however, that in some countries situations have arisen which, in the view of these countries, cause or threaten to cause "disruption" of the market for cotton textiles. In using the expression "disruption" the countries concerned have in mind situations of the kind described in the "Decision of the Contracting Parties of November 19, 1960," the relevant extract from which is annexed as Appendix A to this Agreement.

(Continued on Page 83)

Statistical Methods Can Help Reduce Neps

TESTING IS OF NO VALUE UNLESS RESULTS ARE PROPERLY ANALYZED; CASE HISTORIES SHOW WHAT CAN BE DONE

By **NORBERT L. ENRICK***

SIMPLE statistical analysis of routinely accumulated testing data can be of great value to the mill in reducing neps in the picking and carding operations. As a result, quality improvements and cost savings can be achieved. The illustrations presented here have been adapted from such actual case histories.

Lower Neps From Pickers

While there are plenty of neps in most cottons, the necessary beating and other actions of the picker will inevitably add more neps. Yet, checking neps in the picker lap is so tedious and time-consuming that it would be quite impractical to perform such checks on a routine basis. It is, however, a very simple matter for the picker tender to place a chalk mark on the edge of each lap, indicating the particular picker from which the lap was doffed. Later on, when neps are counted in card webs, you can record not only the card number but also the picker number.

At any one time, a high nep count could be the fault of either the picker (in producing excessive neps) or the card (in not removing its proper share of neps). At the moment the web is tested, it is impossible to identify the picker or the card as the source of the neppiness. However, since laps are fed more or less randomly into the card room, we do know the following:

(1) When, over a period of time, a particular picker has a higher nep count than the other pickers, then that picker must be producing an undue amount of neps. (It is highly unlikely that one picker should always be feeding into substandard quality cards, so that the picker would be blamed for poor carding performance.)

(2) When, over a period of time, a particular card has a higher nep count than the room average, then that card must have some defect, such as in setting, maintenance or mechanical condition, which causes the higher nep count. (Again, it is highly unlikely that a particular card should always be fed by a sub-standard quality picker, since laps are usually fed more or less at random into the carding area.)

Using data accumulated over a period of time, a record of the type illustrated in Table I may be built up. From this, it is evident that Picker No. 2 was in poor condition, making an undue amount of neps. A subsequent check revealed improper settings, fan speeds and beater condition to be responsible.

On the other hand, Picker No. 6 had an unusually low nep count. It was found that this picker had slightly different settings than the other machines in the room. By adjusting all pickers to be similar, based on the good performance of Picker No. 6, a considerable overall reduction in neps ascribable to picking was thus accomplished.

Sometimes the pattern of neps on the pickers will also enable you to identify one opening line as superior to another. Such information does not become apparent, however, until the pickers have been brought under control.

Neps And Waste On Cards

Usually, the large number of cards in a room makes it impractical to test more than a few cards, such as 5 to 10% each week. Again, any single test on a card does not give conclusive evidence of card performance, inasmuch as an off-standard test result may be caused by one of two major factors: (1) long-term fluctuations in cotton quality, such as intrinsic nepping tendency; and (2) a bad lap feeding into the particular card.

Thus, maintenance of a quality history record on each card is extremely useful in evaluating card performance.

The quality history record for Card No. 63 in Table II represents a simplified example of a suitable method of control on the cards. In addition to nep counts in terms of neps per 100 square inches of web, sliver size and flat strips are shown. In many instances, droppings, Uster evenness variation co-efficient and other card quality data are also recorded. The card room average is also recorded. Thus, on June 1, Card No. 63 had a nep count of 45, while the average of the six cards in the room, selected at random on that day was 48. If this room average is a reflection, at least in part, of the long-term trend in cotton neppiness, then Card No. 63, by exhibiting fewer neps than the room average, is showing a slightly better performance.

Examining nep counts in subsequent days, it is again noted that when this card was tested again—in July, August and September—it showed a nep count lower than the room aver-

Table I

Card Web Nep Counts By Picker Producing The Lap Fed

Neps Per 100 Square Inches

Date		Picker Number 1	2	3	4	5	6	Room Average
June	**1**	45	48	46	51	50	48	**48**
	14	43	51	38	39	48	42	**43**
	22	46	47	42	46	48	38	**44**
	27	47	52	39	47	39	42	**44**
July	**5**	40	44	38	42	41	41	**41**
	13	38	46	44	43	44	42	**43**
	21	40	47	48	42	45	43	**44**
	26	48	56	51	46	47	43	**48**
Aug.	**4**	42	48	43	38	50	33	**42**
	11	49	47	49	52	50	48	**49**
	17	43	44	44	42	46	43	**44**
	22	58	55	53	54	48	50	**53**
	30	41	58	39	46	38	35	**43**
Sept.	**4**	44	49	42	43	47	38	**44**
	12	50	52	48	49	50	41	**48**
	19	54	53	50	52	48	47	**51**
	28	38	54	42	40	38	40	**42**
Average		45	50	44	45	46	42	

Source: Actual mill data, abbreviated and simplified for illustrative purposes.

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*Associate Professor, University of Virginia, Charlottesville. Author of "Mill Test Procedures," 1958, Rayon Publishing Corp., New York 16; and "Quality Control," 4th edition, 1960, Industrial Press, New York 13.

Table No. II
Quality History, Card No. 63

			Test Results		
Date	**Picker No.**	**Item**	**Nep Count**	**Sliver Size**	**Strips**
6-1	**1**	**This Card**	45	52	188
		Room Average	48	54	172
		Deviation*	− 3	− 2	+ 16
7-5	**3**	**This Card**	38	51	204
		Room Average	41	52	197
		Deviation	− 3	− 1	+ 7
8-11	**2**	**This Card**	47	53	161
		Room Average	49	55	151
		Deviation	− 2	− 2	+ 10
9-19	**3**	**This Card**	50	55	161
		Room Average	51	55	160
		Deviation	− 1	0	+ 1
10-24	**2**	**This Card**	50	54	174
		Room Average	49	55	180
		Deviation	+ 1	− 1	− 6
11-30	**6**	**This Card**	46	53	182
		Room Average	51	55	163
		Deviation	− 5	− 2	+ 19

*Deviation shows the variation of the individual card from the room average.

Source: Actual mill data, abbreviated and simplified for illustrative purposes.

age. In October there was a reversal of this relationship, but in view of the high variability in nep counts, there may have been other factors responsible for this observance.

Next, noting sliver size, it is observed that sliver weight in grains per yard tended to be lighter than the room average. Moreover, the higher strip weight indicated that a larger amount of strips were removed by the flats.

The story, pieced together from the quality history, is thus apparent. The card tended towards lower neps, but at the expense of more strips and somewhat lighter sliver weight. Excessive flat strips removal is expensive in terms of waste costs, while light sliver weight may adversely transfer itself into lighter-than-average yarn count and, possibly, filling bars in the cloth.

Subsequent corrective action included a re-adjustment of the percentage plate that had caused the excessive strips and a replacement of an off-standard lap roll that had resulted in excessive carding draft. While nep counts increased towards the level of the room average, there were the gains of reduced strip waste and the standardization of sliver weight.

Lower Neps Without Deviations

In reviewing the quality history records for all of the cards, it was noted that one group of cards tended to have lower neps without any deviations in sliver weight or strips. The improvement was traceable to a series of slight differences in card grinding and setting techniques by the card grinders tending that particular group of cards. Adoption of this technique for all of the cards, plus the correction of several individual cards with various defects, brought about a considerable overall reduction in neps.

Variation In Nep Counts

Upon completion of the major improvements leading to reduced overall nep count, several useful special studies were conducted. One of these studies involved an investigation of the variation in nep counts, as observed in successive counts of five web-boards taken from a particular card. The variation in neps, from board to board, tended to correlate in some instances with the sliver variation as tested on a Uster sliver tester. It so happened that at this particular time, the mill was purchasing a new Uster tester with spectrograph. Instead of trading in the old tester, it was suggested that it be placed in the card room, where the card room grinder-setters and the overseer could make their own sliver tests, without having to bother to go to the laboratory for special checks. Since the testing instrument runs automatically, once it has been started up, a minimum of testing labor is required. With this equipment in the card room, personnel took an increased interest in their work, and soon discovered means of improved setting techniques that would yield greater evenness.

With the improved evenness in the sliver, reduced variation in nep counts was also accomplished.

Concluding Note

A number of mills, for whom the author has recommended the quality history method of statistical analysis for pickers and cards, have now evaluated this technique. In the various instances, the mills have developed their own recording forms and various adaptations and innovations of procedures. In those mills where there was good management interest and follow-up, considerable improvements in the form of lower neps, decreased waste and generally enhanced quality were found to be attainable.

It is evident that the cost of maintaining the quality history records is negligible, since this work requires only a fraction of the regular testing time. Testing is of no value unless the results are recorded, and they might as well be logged in such a manner as to be of greatest value in terms of the amount of information revealed and the corrective action that is induced thereby.

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Give The Mills The Cotton Qualities They Need

PRODUCERS-GINNERS URGED TO STOP OVERGINNING COTTON AND SHOOT FOR LONGER STAPLE, STRONGER, FINER FIBERS

By JOE L. DELANY,*
General Superintendent
Joanna Cotton Mills Co.
Joanna, S. C.

THIS paper will be grouped into three sections: (1) types of cotton and fabrics into which they are woven at Joanna; (2) fibers we use and their properties; (3) fiber qualities the cotton producer should offer the spinner. At Joanna we spin a wide range of yarn counts; our heaviest is 6.00s and the finest is 118.00s. For this reason our experience may have more than average value.

Consumer Wants Easy-Care

The present-day purchaser of cotton fabrics for personal wear—dresses, shirts, pajamas and other type garments—is looking for an "easy care" material. Cloth finishers are seeking fabrics they can convert to this material and still meet the rigid strength standards imposed by the industry.

The resin treatment gives the easy care effect, but may cut fabric strength by as much as 50%. The first answer to this strength loss is to have the mill build more strength into the cloth by putting more ends of yarn into the cloth, or by increasing the weight of the yarns. Each of these would increase cloth strength but would also increase the weight and cost of the cloth. And the customer would not accept the heavier goods. The customer would still expect a fine combed lawn to be exactly that. The same is true with a broadcloth or any other fabric. In no case would the customer accept an overweight "boardy" piece of goods for which he would have to pay more.

Possible Adjustments

A few possible adjustments could be made. For instance, if there happened to be an excess of strength in the warp direction then some of the threads could be switched to the filling direction. It might be possible to adjust twist in the yarns to gain strength. But twist change is severely limited, and usually very little can be done in this area. The alternatives are to use a longer fibered cotton or to comb the cotton. Usually the answer is both. Since long fibers give strength and short fibers lose strength, going to a longer cotton and combing the short fibers out of it offers the most certain means of meeting quality standards in the wash-and-wear field.

Confronted with this problem, our first thought was to examine the fiber we were using. This was SLM, $1\frac{1}{16}$-inch staple. Part came from the Carolinas and part from the Delta. We decided a micronaire of 3.8 to 4.0 was low enough to meet our specifications.

Next, we felt combing would eliminate enough short fibers to spin out a relatively strong yarn. We then examined our operational set-up. Where weak, such as in older roving frames, or in a less modern spinning drafting system, we installed new equipment. We also installed the most modern combers available. We painstakingly set up quality standards on each process. Rolls in every frame were carefully checked with a micrometer to detect eccentricities which could set up a wave pattern in the yarn. Gears in the frames were pulled off and, after a thorough scrubbing, were checked on our micrometer gear tester for eccentricity in pitch diameter, wear on teeth, wear in bore, and overall condition. Those not meeting our standards were promptly junked. Every component in the machines which would introduce variability into the strand being made was examined thoroughly, and discarded if not up to standard. We acted on that old familiar law which says, "anything that can go bad—*will!*"

With our new set-up we succeeded in spinning a stronger, more uniform yarn. It gave the cloth finisher the strength he so badly needed. That is, for a while. New competition forced the finisher to demand new fabrics even finer and stronger. Where we had been spinning counts in the upper middle range we were now requested to go to the really fine yarn counts—or so we thought at that time. To do this, we had to radically change our cotton. The customer pointed out that even though we were combing the cotton we were still a long way from meeting the standards offered by mills using an imported cotton. This particular cotton spins into a very smooth yarn of extra high strength which is carried over into the cloth and gives the finisher the extra tensile he must have in his easy care fabric. Some finishers will pay a premium for such cloth because, in addition to high strength, it will have light weight, be smooth and very clean. The finisher also claims this imported cotton gives a luster or sheen to the fabric not readily found in other competitive goods. So, we found ourselves making substantial yardages of goods from this imported cotton.

We are now spinning and weaving what we hope is the ultimate in fine count yarns. We started in the 30s and 40s shadecloth range. Then we jumped to the 30s and 50s combed areas. Next came the big jump when we added the 40s to 85s from imported cotton. Now we have gone to the ultra fine peak of up to 118s. The most surprising thing about this is that to spin this super fine combed yarn efficiently we had to go to the U. S. grown Supima. Here is a yarn so delicate that one pound of it will have a length of almost 60 miles.

Fibers Used

Our coarser counts which are not combed are spun from eastern belt SLM of one inch or more staple. This is a relatively coarse cotton of approximately 4.5 Micronaire, a Pressley break of about 80,000 pounds, and within its range spins an excellent quality yarn.

Our middle class range runs from 35s to 65s, all combed. These yarns are spun from middling $1\frac{3}{32}$-inch staple. We usually get the cotton for these yarns from the Carolinas but since only a limited amount is available, we often are compelled to go further West to meet our needs. Eastern cotton does not have the *dubious benefits* of some of the Western

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*From a paper delivered before the Cotton Marketing Conference Research Clinic at Memphis, Tenn., sponsored by the National Cotton Council.

J. Mason Rowland, Overseer of Spinning at Joanna Cotton Mills, Division of Joanna Western Mills Co., Joanna, South Carolina, and Armstrong representative, Paul Rosser, check yarn uniformity at this spinning frame. Accotex NO-764 cots are used on front and back lines; Aprons are NO-7075.

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For dependable suggestions on selection or performance of roll coverings and aprons, many mill men rely on their Armstrong representative. Here, for example, you see T. Paul Rosser working with personnel of the Joanna Cotton Mills, Division of Joanna Western Mills Co., Joanna, South Carolina.

Be sure to call *your* Armstrong man on any roll covering or apron problem. Armstrong Cork Company, 6409 Davis Avenue, Lancaster, Pa.

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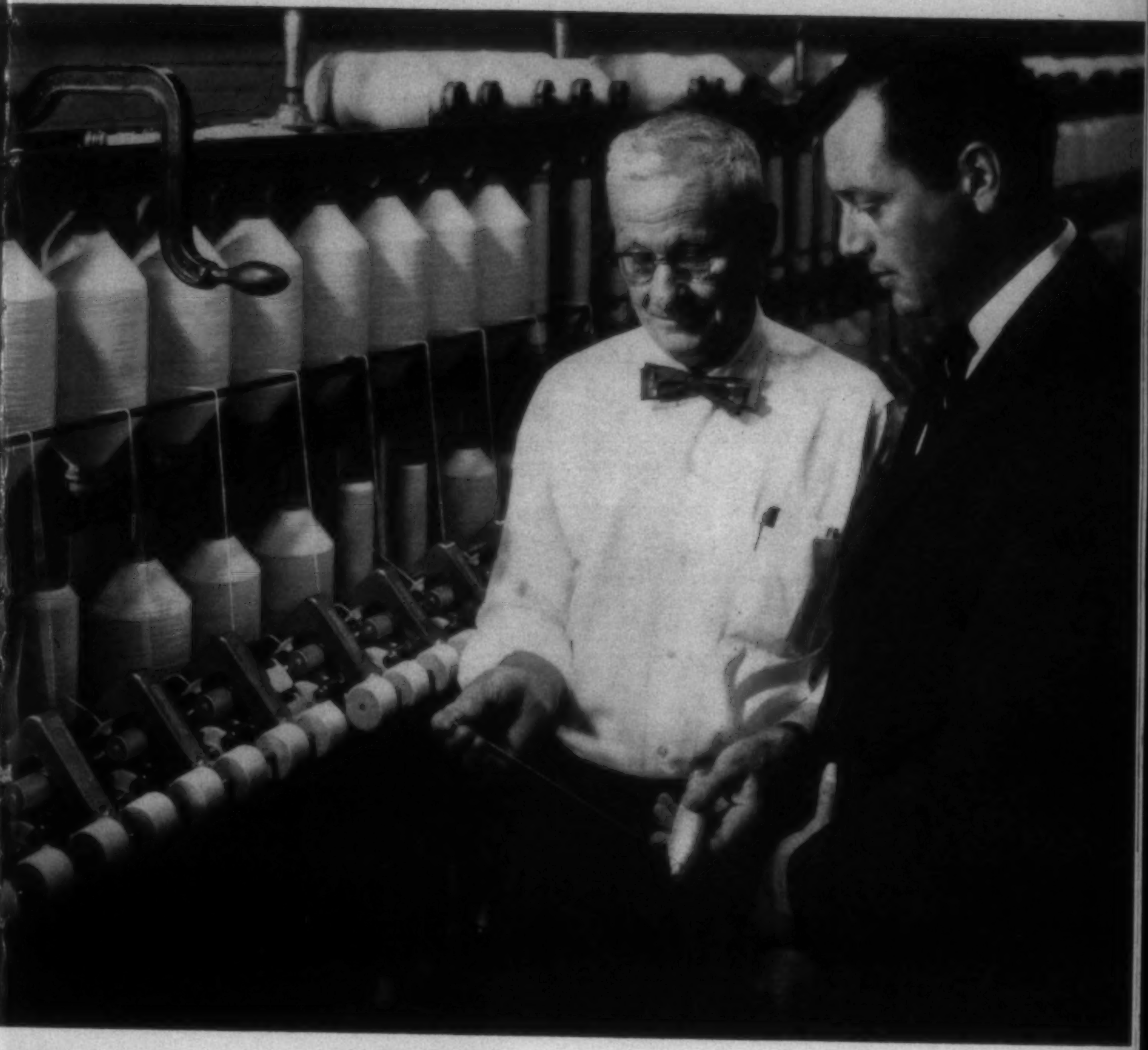
Left: David R. Meyers, Asst. Superintendent of Carding and Spinning, chats with Rosser about comber performance. The detaching rolls on this comber are covered with Accotex NO-728 and the draw box rolls with J-490 covers. Right: Gainvill Dozier, Roll Shop Foreman, operates this Armstrong Type "J" buffing machine, while Rosser looks on.



Walter E. Byars (left), Purchasing Agent, and Joseph L. Delany, Superintendent, look over Accotex textile products catalog with Paul Rosser.

Armstrong

ACCOTEX COTS AND APRONS

gins. While heated gins are used in the East, they do not have as much overhead and lint cleaning equipment mixed in with fantastically hot drying stands. Eastern cotton is usually less costly to run and spins into a very excellent yarn. However, we buy cotton from both the Delta and west Texas. Both supply very substantial amounts of fine fibered, fairly strong, fairly long staple cotton. West Texas cotton is a particularly good spinning fiber, and for this reason we often add it to beef up our mix. This increases the strength of our fine yarns as well as the strength of the cloth. Both Delta and Texas cottons cost more to use but when the cloth finisher demands strength—and note how often strength is mentioned—then we must use cotton which will give it.

The upper medium fine range spun from an imported cotton was about $1\frac{7}{16}$-inch in length, of rich creamy brightness, was extra strong in the Pressley break, had a micronaire of not over 3.5 and also had two other very important qualities.

It Was Pre-Blended

First, it was pre-blended. Each bale placed in front of our opening line had parts of at least 100 or more bales. The bale was packed differently from the U. S. bale in that it was not baled in smooth layers which could be freely peeled off in sheets of most any size. Rather, it was like a bale of small bundles, each of which contained small tufts from the original bales. Together these were all tossed into the bale press, compressed to an extremely high (ocean) density, and baled with extra heavy steel ties. Because of the high number of bales represented in each delivered bale we could run a mix of as few as four bales. This proved to run well in the mill from day to day, spin at a very high level of operation, produce an extremely high strength yarn, and fabric with excellent bleaching and dyeing properties. That extra strength also remained in the resin-treated goods and made the finisher most happy.

The second desirable property was that the finisher claimed that cloth made from this cotton had a "sheen" in the finished goods that no other cotton could offer.

Our top super-fine yarns are Supima spun. The cotton is about $1\frac{1}{2}$-inch long and of top grade. It usually runs a micronaire of a little under 3.5. Its Pressley is well over 100,000 pounds. In setting up some sort of yard stick by which to grade these cottons in yarn strength, we have taken the carded cotton 30s as a base strength of 100. The domestic combed cotton yarn in the 30s to 50s range will run at 125 strength index. The imported cotton in the medium fine range will strength index at 140 to 145, while the Supima yarn strength index will be over 150. Please regard these strength figures as approximate because our cotton is a commercially grown fiber, bought on the open market, and in competition with other fine count spinners. Furthermore, due to the variables in cotton, comparisons do not always check out but only indicate trends.

Qualities Producers Should Offer

We must seek fibers in competition with other like-minded spinners. Between what the customer pays for the cloth in a *buyer's* market and what the cotton is sold for to the spinner in a market *supported by Uncle Sam,* is the difference in which the mill must manufacture at a profit to stay in business. So above all, look to *price.* Cotton is no longer king. It is a very wonderful fiber and when it comes to miracles none has its versatility. Get the price honestly competitive and cotton will massively take over the textile market in a way never dreamed of before.

Strength is paramount. In each instance I have related that the only way we could satisfy the needs of our cloth customers was by giving them more and more strength.

Along with strength goes mature fineness. The more single fibers in a cross section of yarn, the higher potential strength will exist. We must have fine fibers that are mature because fineness without maturity is of small value.

Staple length is a must. It is quite noticeable that as we approach the ultimate in spinning value we achieve it only with extra long staple. If there is one fiber characteristic prized by the average overseer of a spinning room it is long staple. So, by all means let us have *length* and *more length* in cotton.

Grades Are Phony

So many times the grade allocated to the bale is as phony as a $3 bill. Overginning, an effort to please the producer by the ginner, has resulted in the mass mutilation of the entire crop. Each year becomes progressively worse with loss of yarn strength being particularly noticeable. Gin tests have proved that excessive heating and cleaning produce a very high lint cotton grade, as well as an inferior processing, and extremely weak yarn which costs more to spin and weave into a fabric of poor quality. So it does a very great deal for the producer but hurts the cotton mills. When spinners are desperately searching for strength, the very people to whom they turn for their raw material can, at the turn of a valve, destroy, or severely damage, the very quality the spinner must have.

At a recent meeting of the British Empire Cotton Growing Corp., the chairman said the character of American cotton has fallen off to such a degree that growers in other parts of the world now can command a premium over American cotton of similar staple and comparable grade. He said the obvious reason is that U. S. cotton is mechanically harvested, with a resultant drop in grade. Drying and cleaning are used in some gins to raise the grade; this produces cotton which, while good in appearance, may be poor in character. He added that it is no longer possible to rely on the traditional relationship between bale classification and spinning performance.

When people who buy our cotton for considerably less than what we pay for it "can look a gift horse in the mouth," we must have a point.

After all, the cotton mill is the customer for cotton. The man who is buying the lint, setting up a high priced line of mill machines to process it, supplying jobs for a great number of U. S. citizens and paying his taxes, definitely should have a big say in the condition of his raw material. If the producer does not listen, but instead heeds "Top Grade, Top Price," then one day another will supply the specifications.

Pre-Blending Being Tried

Pre-blending is being closely scrutinized by more and more textile operators. The usual thought is that all that is necessary in pre-blending is to put down a large number of bales, run these through a blending line, bale them and send them to the cotton mill, where they are processed in the usual manner. Unquestionably, this is a very extraordinary operation which actually can give improved levels of performance. That is, better running work, fewer ends-down in spinning, fewer loom stops, less variation of these work units from day to day, thus doing away with periods referred to as blow-ups, when

(Continued on Page 85)

What Happens To Product Quality When Cotton Blends Vary In Their Flat Bundle Strengths?

S.R.R.L. INVESTIGATORS HAVE FOUND THAT A NUMBER OF FACTORS ARE RELATED TO FIBER BUNDLE STRENGTH

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ABSTRACT

ONE BALE of a relatively strong and one of a relatively weak cotton were individually blended to insure homogeneity, then divided appropriate to the processing of 150 pounds of stock of each of the cottons and of each of three blends (25/75, 50/50 and 75/25). The five 150-pound lots were processed into warp (30/1, 20 tex) and filling (40/1, 15 tex) yarns for weaving 80x80 print cloth. However, only the two control cottons and the 50/50 blend were processed into fabrics. These were chemically finished in commercial operations through singeing, desizing, scouring, bleaching, mercerizing and dyeing. A resin (wash-and-wear) formulation was subsequently applied at S.R.R.L. Cotton fiber bundle strength was found to be related to (1) the proportion of weak and strong fiber cottons in the blend; (2) the strength of yarns spun from them; (3) warp strip breaking strength in the grey; scoured; bleached; bleached, mercerized and dyed; and blached, mercerized, dyed and resin-treated states; (4) filling strip breaking strength in all but the bleached, mercerized, dyed and resin-treated states. The results of grab test indicated somewhat similar trends, while flex abrasion was apparently not affected by cotton fiber bundle strength. The higher level of fabric properties (strip and grab breaking strength and resistance to tearing) occupied after resin treatment by the fabric produced from the strongest-fibered cotton was, in each case, percentage-wise (14%), about equal to the higher level of fiber bundle strength exhibited by the strongest-fibered cotton.

AS part of an overall investigation of the effects of blending cottons differing in pertinent fiber properties, one phase had as its objective the evaluation of product quality when cottons different in flat bundle strength were blended in varying proportions.

Other investigations *(3, 6, 7 see references at end of article)* have worked in this general area and some *(3, 7)* have evaluated the response of their resulting fabrics to repeated laundering cycles. However, these studies were in general based on the use of individual cottons for each level of cotton quality or fiber property investigated, whereas in this investigation, blending was used to obtain three intermediary levels of fiber bundle strength.

This report presents the effects of blending cotton differing in fiber bundle strength on yarn and fabric quality.

Materials And Methods

Cottons: One bale of each of relatively strong cotton, Stardel *(4)*, and a relatively weak cotton (Upland type) were used. The fiber properties of these cottons and of the blends made from them are shown in Table I. Tests of fiber properties were made on samples taken from finisher picker lap (at which point the blends were made) and in accordance with recommended A.S.T.M. procedures *(1a)*. The fiber bundle tenacity values of the five samples exhibited a nearly linear relationship against the proportion of each cotton in the blend at both zero and ⅛-inch gauge.

Table I. Fiber Properties Of Samples

Fiber Properties					
Stardel	100%	25%	50%	75%	100%
Unknown	0	75%	50%	25%	0
Grade	SM	—	—	—	SM
Length					
Classer	1-1/16	—	—	—	1-1/16
Fibrograph					
UHM	1.10	1.09	1.09	1.08	1.06
Mean (inch)	0.84	0.84	0.83	0.82	0.80
UR (%)	76	77	76	76	75
Fineness					
Micronaire Reading	4.90	4.98	4.92	5.02	5.05
Maturity (Random Sample)	90	—	—	—	87
Strength					
Stelometer, gm/tex					
Zero Gauge	43.2	40.8	39.2	38.3	35.0
⅛-in. Gauge	21.0	20.7	19.7	18.8	18.1
Elongation (%)					
Stelometer					
⅛-in. Gauge	7.7	8.7	8.1	8.7	10.1

For ease of reading and in following the trends of yarn and fabric properties, the five blends and refered to hereinafter by their tenacity values (21.0, 20.7, 19.7, 18.8 and 18.1 gm/tex, respectively) as obtained with the Stelometer** at ⅛-inch gauge.

Blending Procedure: Each bale was thoroughly blended to insure a homogeneous sample for each intermediate strength mix. The blends (75/25, 50/50 and 25/75) were made at the finisher picker by proportioning the weights of the weak and strong cottons in the form of breaker picker laps.

Processing Procedure: About 15 pounds of each of the weak and strong cottons and of the blends were processed alike on conventional processing equipment into three yarn numbers [22/1 (26 tex), 36/1 (16 tex), and 48/1 (12 tex)] with a range of twist multipliers (3.7 to 5.7 in increments of 0.5).

Approximately 150 pounds of each of the five blends were processed into warp (30/1, 20 tex) and filling (40/1, 15 tex) yarns for use in weaving 80x80 print cloth.

Pertinent details of processing and of the quality of the rovings and yarns are shown in Tables II and III.

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*One of the laboratories of the Southern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture.

**Use of a company and/or product name by U.S.D.A. does not imply approval or recommendation of the product to the exclusion of others which may also be suitable.

Table II. Summary Of Processing Data

Mfg. Detail	Lot Designation 21.0	20.7	19.7	18.8	18.1
	(Fiber Bundle Tenacity — gm/tex)				
Waste (%)					
Opening and Breaker Picker*	2.37	—	—	—	1.66
Card*	5.20	4.68	4.96	4.71	6.31
Total**	7.44	—	—	—	7.87
Neps/grain***	5.87	4.40	5.41	5.77	6.49

* Based on amount fed at each process
** Based on total amount fed at opener
*** Carded at 11.3 lbs./hr.

Table III. Summary Of Quality Evaluations

Product	Lot Designation 21.0	20.7	19.7	18.8	18.1
	(Fiber Bundle Tenacity—gm/tex)				
	Linear Density Coefficient of Variation (%)				
Drawing Sliver (55 gr/yd, 3.9 killotex)	3.98	4.23	4.08	4.30	4.37
Roving (2.0 hank, 295 tex)	9.4	9.3	8.9	9.3	9.4
Yarn					
30/1 (20 tex) 4.50 T.M.*	15.8	15.6	16.8	15.9	16.7
40/1 (15 tex) 3.60 T.M.**	15.9	17.1	16.6	18.0	17.6
	Skein Count Strength Product (Yarn No. × Breaking Load in lbs.)				
Yarn					
30/1 (20 tex) 4.50 T.M.*	2457	2334	2201	2127	1999
40/1 (15 tex) 3.60 T.M.**	2222	2026	1960	1828	1757

* Warp Yarn
** Filling Yarn

In spite of the fact that only the control lots (21.0 and 18.1) were processed through opening and breaker picking, where a certain amount of waste was removed, more waste resulted from carding these cottons than resulted from carding any of the blends. For each cotton, there were four stripping cycles with nep counts being made ten minutes after the start and just before the end of each cycle.

Only the two control cottons and the 50/50 blend were ultimately processed into fabrics with filling yarns made from the three cottons being used equally in each of the three warps. After removal of appropriate gray samples, the fabrics were chemically finished in commercial operations including singeing, desizing, scouring, bleaching, mercerizing and dyeing. Appropriate yardages were removed from the processing line after each operation except singeing and desizing. After being returned to S.R.R.L. a portion of the bleached, mercerized and dyed samples were treated with a wash-and-wear finish, (dimethylethylene urea plus emulsified polyethylene). Portions of the samples which had been only bleached were given 25, 50 and 75 commercial launderings.

Testing Procedure: Fiber strength and elongation properties were measured on the Stelometer *(1a, 5, 8)* and all other fiber properties were determined by A.S.T.M. methods *(1b)* from samples of finisher picker lap. Neps were evaluated by the template method *(2)*. Skein strength determinations were made on a pendulum-type tester of 0 to 150 pound capacity *(1c)* and single strand strength and elongation at break measurements were made on the Uster automatic single strand tester of 0-1000 gram capacity adjusted to a speed of 10 seconds to break. Fabric properties also were determined by using A.S.T.M. method *(1d)*.

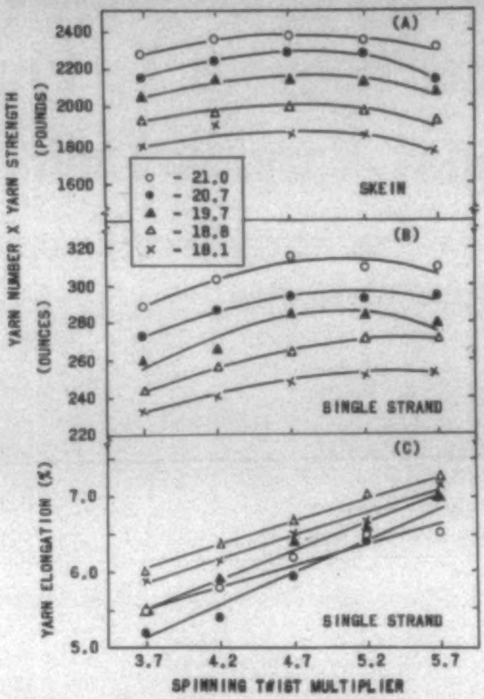

Fig. 1—Effect of fiber bundle strength and spinning twist on the skein strength, single strand yarn strength, and breaking elongation of 36/1 carded yarn.

Results And Discussion

The relationships between the curves shown in Fig. 1 (A) and (B) are about as expected from the respective fiber strength values. While stepwise differences are noted in the maximum values (with differences in fiber strength), generally speaking, the twist multipliers required to produce maximum yarn strength are approximately the same; namely, 4.7 for skein and 5.2 for single strand for the five blends. Also, the fiber bundle strength test using a 1/8-inch gauge provides data which has a high correlation with maximum strength, the percentage difference between the extreme values of fiber bundle tenacity is about two-thirds that found between the strength of 36/1 yarns spun from them.

Similar observations were noted on the 22/1 (27 tex) and 48/1 (12 tex) yarns in skein strength, single strand strength and breaking elongation data not shown.)

In Figs. 2, 7 and 8 the presentation of the data has been

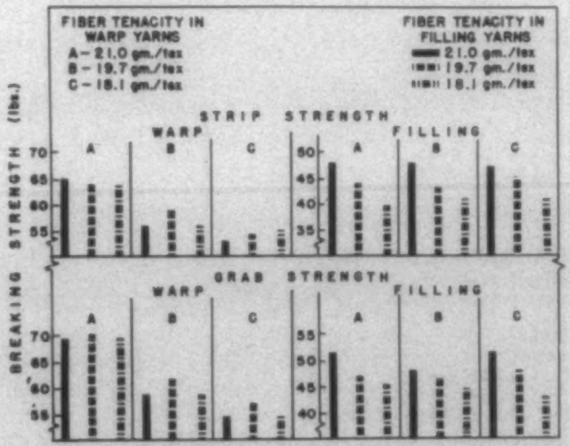

Fig. 2—Effect of fiber bundle strength on strip and grab breaking strength of a gray 80x80 print cloth.

grouped on the basis of the fiber bundle strength of the cotton in the individual warps with the legend for this grouping appearing in the upper left hand corner. In each of these groups the presentation is based on the fiber bundle strength of the cotton in the filling yarns used in the warps with the legend for this appearing in the upper right hand corner.

The effect of the different combinations of warp and filling yarns (the three filling yarns being used in each of the three warps) on the strip and grab strengths of samples taken in both the warp and filling directions of the gray fabrics is shown in Fig. 2. As shown by strip tests on warpwise samples, those fabrics containing the same yarns in both warp and filling directions (Warp 21.0, Filling 21.0, etc.) were the strongest in each group of three. This is true even for the fabric (Warp 18.1, Filling 18.1) containing the weakest yarns in both directions. However, the overall trend in strip breaking strength of samples taken in the warp direction was apparently influenced by the strength of the cottons used to spin the warp yarns.

Strip strengths of filling samples are directly related to strength of filling yarns; and for a given filling no downward trend is seen with decreasing strength of fibers used in the warp yarns.

The results of grab tests on warpwise samples of the same fabrics reveal an apparent anomaly in that the fabrics woven with the intermediate strength filling (19.7) exhibited the highest warp strength in each case. With respect to grab tests made on samples taken in the filling direction, trends similar to the results of strip tests are seen.

A similar evaluation is presented later of the results of tests on samples from fabrics which have been through all finishing operations including the wash-and-wear treatment. For the intermediate stages, data are presented only on the results of tests on fabrics woven with warp and filling yarns spun from the same blends; that is, Warp 21.0—Filling 21.0, Warp 19.7—Filling 19.7, Warp 18.1—Filling 18.1.

In Figs. 3 and 4 are shown the results of strip and grab breaking tests, respectively, on samples taken stepwise from the finishing operations and from bleached and commercially laundered samples.

Cotton fiber bundle strength was directly related to the strip breaking strength warp and fillingwise, of samples taken from the indicated steps in finishing through bleaching, mercerizing and dyeing, and with no appreciable decrease from the value found in the gray fabrics.

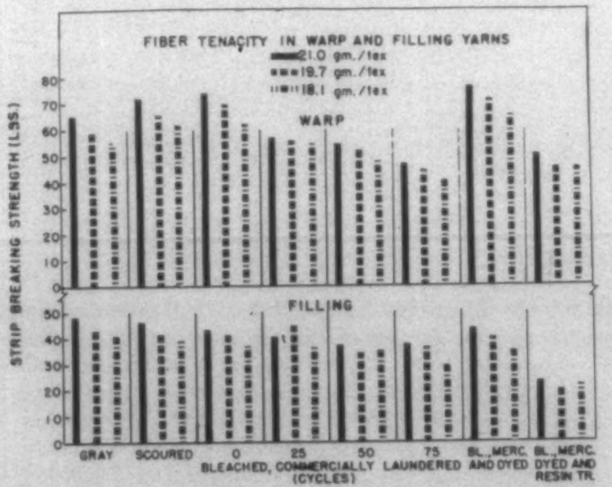

Fig. 3—Effect of fiber bundle strength on the strip breaking strength of an 80x80 print cloth after selected chemical finishing operations and after bleaching and commercial laundering.

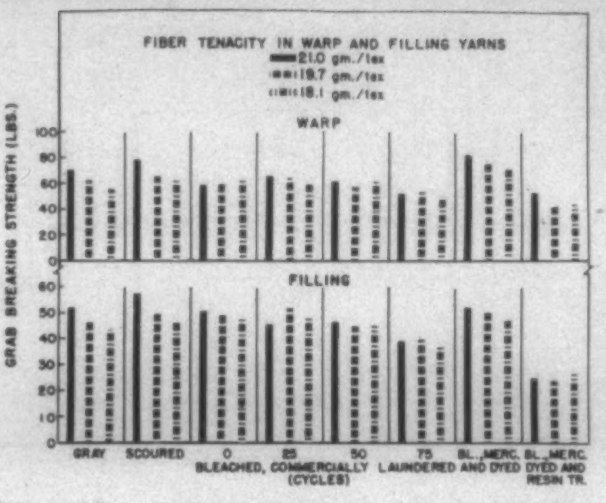

Fig. 4—Effect of fiber bundle strength on the grab breaking strength of an 80x80 print cloth after selected chemical finishing operations and after bleaching and commercial laundering.

While the relative ranking of the bundle breaking strength of the cottons was maintained in strip breaking tests on samples taken in the warp direction from the gray through bleaching and 75 commercial launderings, there was a gradual deterioration of strength during the laundering operations. On the other hand, while the relative ranking was not maintained on samples taken in the filling direction, there was somewhat less loss in strip breaking strength. In contrast to samples taken from the strip and grab breaking strengths of fillingwise samples of wash-and-wear resin treated fabrics.

Grab test results are shown in Fig. 4 to be very similar to those obtained by the strip method except that the grab strength of bleached samples did not reflect the differences in the strength of the cottons from which they were produced.

Resistance of these fabrics to flex abrasion is obviously not a function of cotton fiber bundle strength as shown in Fig. 5. Even more impressive is the fact that 25 launderings reduced the property to a level which was not changed by 50 additional launderings. From results of tests in both warp and filling directions, what little spread there was between the

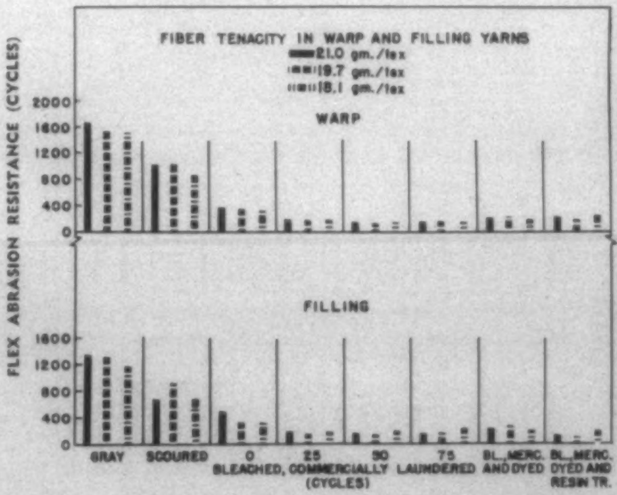

Fig. 5—Effect of fiber bundle strength on the resistance to flex abrasion of an 80x80 print cloth after selected chemical finishing operations and after bleaching and commercial laundering.

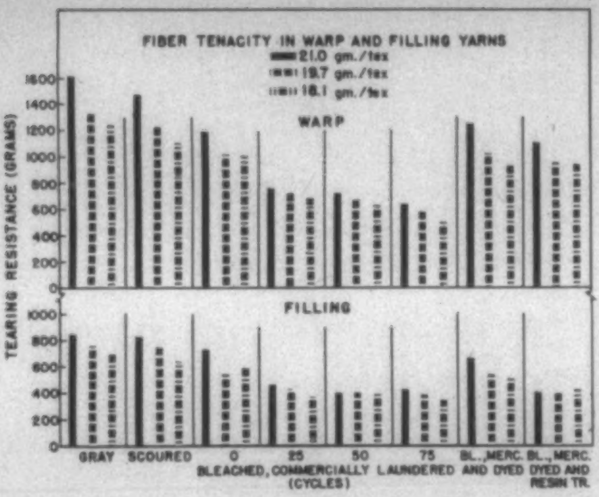

Fig. 6—Effect of fiber bundle strength on the resistance to tearing (Elmendorf method) of an 80x80 print cloth after selected chemical finishing operations and after bleaching and commercial laundering.

three fabrics in the gray had been eliminated by the time the fabrics had been dyed. With the flex abrasion resistance of these fabrics having been reduced to such a low level by chemical processes through bleaching, mercerizing and dyeing, it is not surprising that resin finishing produced no additional startling effect.

While chemical finishing operations reduced somewhat the resistance to tearing of these fabrics, as shown in Fig. 6, cotton fiber bundle strength appears to have an appreciable effect on resistance to tearing of fabrics after each step in chemical finishing through dyeing, and in the warp direction through a wash-and-wear resin treatment. Cotton fiber bundle strength had only a slight effect on the effect of laundering, and little, if any, on the effect of a wash-and-wear resin treatment on the resistance to tearing in the filling direction.

In Fig. 7 is shown the effect of cotton fiber bundle strength on strip and grab breaking strength of wash-and-wear treated samples. This figure is a companion to Fig. 2 which shows the effect of cotton fiber bundle strength on strip and grab strength of gray samples. It may not be too obvious but cotton fiber bundle strength has a decided effect in the warp direction on the strip and grab strength of fabrics which have been given a wash-and-wear resin treatment. Particularly, fabrics woven from the strongest warp yarns possess the highest warpwise breaking strength and vice versa, but the fillingwise breaking strengths of all fabrics are nearly equal, indicating that the differences between the fillingwise strengths of gray fabrics (Fig. 2) have been eliminated during chemical finishing. Also note the general decrease of about 50% in fillingwise breaking strengths of all resin-treated fabrics as compared with the gray fabrics.

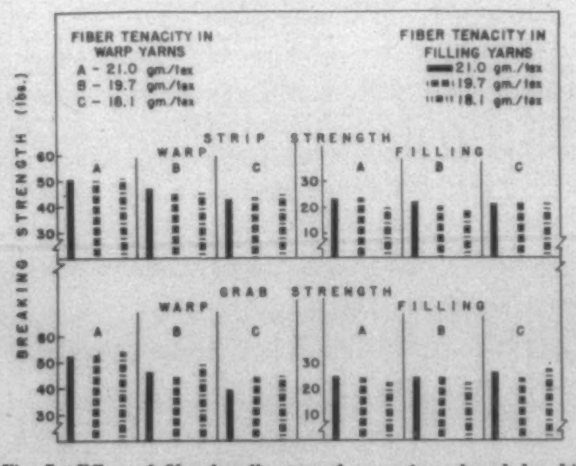

Fig. 7—Effect of fiber bundle strength on strip and grab breaking strengths of a bleached, mercerized and dyed 80x80 print cloth after a wash-and-wear resin treatment.

One means of evaluating the successful application of a wash-and-wear finish is use of some measure of the improvement in the angle of crease recovery. These results are shown in Fig. 8. In all cases, improvement was effected to the extent of 85 to 90%. The level of crease angle attainment by this treatment and the degree of improvement in this property are apparently not directly influenced by fiber bundle strength of the raw cotton from which the fabrics were produced.

The significance of the effects of cotton fiber bundle strength (hereafter referred to as cottons) in fabrics, commercial finishing, and of these same combinations of cottons at different levels of finishing are shown in Table IV. Both cottons and commercial finishing had significant effects on strip breaking strength and Elmendorf tearing resistance in both warp and filling directions. The effect of cottons was not consistent at different stages of finishing as indicated by a significant interaction (TXC) between cottons and finishing treatments for all except warp strip breaking strength. However, this interaction was used for testing the significance of cottons and finishing treatments, and was sufficiently smaller than both, to indicate that the effect of each was significant. Mean squares for cottons for grab breaking strength and for flex abrasion resistance were not sufficiently larger than the interaction (TXC) between cottons and different levels of finishing to be significant in either the warp or the filling directions.

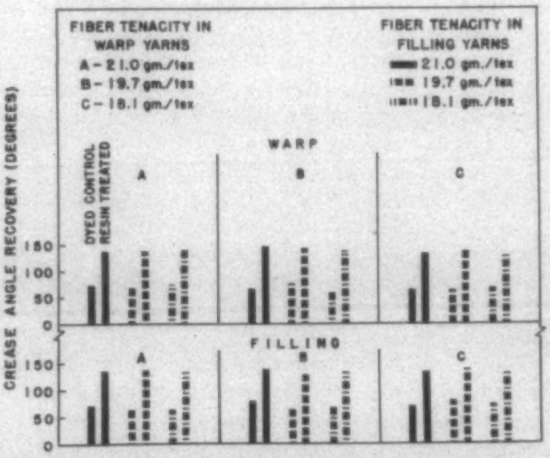

Fig. 8—Effect of fiber bundle strength on the crease angle recovery of a bleached, mercerized and dyed 80x80 print cloth after a wash-and-wear resin treatment.

The significance of the effects of cottons and launderings for bleached fabrics only is shown in Table V. Laundering had a significant effect on grab and strip breaking strength, Elmendorf tearing resistance and flex abrasion resistance in both warp and filling directions with one exception. The effect of laundering on filling strip breaking strength did not quite reach significance at the 95% probability level. It is noted from the data that flex abrasion resistance and Elmendorf tearing resistance dropped sharply for the first 25 launderings—as compared to zero launderings—and that further launderings had less effect. This tendency is also noted but to a lesser degree for grab breaking strength in the warp direction. However, grab breaking strength in the warp and filling directions and strip breaking strength in the filling direction were, in a number of cases, greater after 25 and, in a few cases, after 50 launderings than for the unlaundered bleached fabrics containing 21.0 gm/tex and 19.7 gm/tex cottons in both warp and filling yarns. The effect of cottons in the bleached fabrics was significant for strip breaking strength, Elmendorf tearing resistance in the warp direction, but not for grab breaking strength, nor for any of these properties tested in the filling direction. The effect of cottons was not consistent for different numbers of launderings for some of the fabric properties, as indicated by significant TXC interactions for these purposes.

Table IV

Significance Of Effects (Mean Squares) Of Cottons[1] And Treatments[2] On Specified Fabric Properties

Source of Variation	Degrees of Freedom	Breaking Strength Grab	Breaking Strength Strip	Elmendorf Tear Resistance	Flex Abrasion Resistance
			WARP		
Total	44				
Cottons (C)	2	169.1*	377.5**	423,887**	56,099
Treatments (T)	4	1083.6**	910.3**	239,069**	3,332,207**
T X C	8	88.7**	15.6	15,776**	54,740**
Determinations (D) in T X C	30	9.5	8.6	2,742	8,098
			FILLING		
Total	44				
Cottons (C)	2	38.8	105.8**	87,847**	17,919
Treatments	4	1126.5**	804.7**	184,608**	1,956,489**
T X C	8	55.2**	9.7*	8,958**	54,015**
Determinations (D) in T X C	30	12.5	4.3	938	13,152

---

* Significant at 95% Probability Level
** Significant at 99% Probability Level
(1) Cotton Fabrics (21.0, 19.7, 18.1)
(2) Gray; Scoured; Bleached; Bleached, Mercerized and Dyed; Bleached, Mercerized, Dyed and Resin Treated

Conclusion

From the analysis of the data, a few conclusions may be drawn:

(1) The strengths of yarn spun from a strong and a weak cotton and from three blends (25/75, 50/50, 75/25) of them were directly proportional to the percentage of the strong and the weak cottons in them.

(2) Warp strip breaking strength in the gray; scoured; bleached; bleached, mercerized and dyed; and bleached, mercerized, dyed and resin treated fabrics were directly related to the fiber bundle strength of the cottons from which they were produced.

(3) Grab tests gave results similar to those obtained by the strip method, with the exception that the grab strengths of the bleached samples did not reflect the difference in the strength of the cottons from which they were produced.

(4) Resistance of gray fabrics to flex abrasion were not affected by differences in cotton fiber bundle strength; furthermore, scouring and beaching exerted the greatest effect, reducing the flext aBrasion resistance in the warp direction to one-fourth that of the gray fabrics and in the filling direction to about one-third that of the gray fabrics.

(5) Resistance of fabrics to tearing in the warp and filling directions in the gray; scoured; and bleached, mercerized and dyed states, and to some extent, after resin treatment in the warp direction was directly related to cotton fiber bundle strength. This relationship did not hold for samples taken in the filling direction.

(6) Strip breaking strength in the warp direction and resistance to tearing in both warp and filling directions were affected by cotton fiber bundle strength. However, all fabrics suffered appreciable losses in these properties when subjected to bleaching and commercial laundering.

(7) The higher level of fabric strengths (strip, grab and tearing in the warp direction) occupied after resin treatment by the fabric produced from the strongest fibered cotton was in each case, percentagewise (14%) almost equal to the higher level of fiber bundle strength exhibited by the strongest fibered cotton.

(8) All fabrics had about the same improvement in crease angle recovery after resin treatment—as compared to the dyed control — regardless of the strength of fibers from which they were produced.

Wide divergence between the trends established by the results of strip and grab breaking strengths, especially in the analysis of the laundered samples, emphasizes the need for understanding the forces involved in selecting the test method to be used.

Table V

Significance Of Effects (Mean Squares) Of Cottons[1] And Launderings[2] On Specified Fabric Properties

Sources of Variation	Degrees of Freedom	Breaking Strength Grab	Breaking Strength Strip	Elmendorf Tear Resistance	Flex Abrasion Resistance
			WARP		
Total	35				
Cottons (C)	2	6.1	124.9*	33,322*	1,805*
Launderings (L)	3	192.0*	1052.9**	424,790**	104,717**
L X C	6	21.7	15.4*	4,533*	282
Determinations (D) in L X C	24	9.2	4.6	1,278	742
			FILLING		
Total	35				
Cottons (C)	2	17.4	93.0	21,608	13,096
Launderings (L)	3	240.9**	95.6	118,986**	120,928**
L X C	6	7.1	20.8**	5,882**	6,591**
Determinations (D) in L X C	24	11.1	4.8	346	905

* Significant at 95% Probability Level
** Significant at 99% Probability Level
(1) Cotton Fabrics (21.0, 19.7, 18.1)
(2) Bleached Fabrics Before Laundering and After Laundering 25, 50 and 75 Times

Acknowledgments

Appreciation is expressed to Miss Lucille Finley, Louisana Agricultural Experiment Station, and to J. Y. Oakes, superintendent, Red River Valley Experiment Station, for their assistance in

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obtaining the Stardel cotton. Particular appreciation is due J. M. Cheatham, president, and personnel of Lowell Bleachery South, Griffin, Ga., for bleaching, mercerizing and dyeing the fabrics; and officials and personnel of Chalmette Laundry, New Orleans, for the laundering of the fabrics.

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New Textile Hall To Be Located On 30-Acre Site In Greenville

Plans for a new exhibition hall with 160,000 square feet, and expandable to 300,000 square feet, have been announced by Textile Hall Corp., Greenville, S. C. The new building will be located on a 30-acre site adjacent to the Greenville Municipal Airport. It will be 50% larger than the present building in downtown Greenville.

Yancey Gilkerson, editor of *Women's Wear Daily,* New York City, has accepted the post of executive vice-president of Textile Hall Corp., and will assist in the direction of the hall's expansion program. The 1962 textile exhibition will be held in the present building but the new facility is expected to be ready for subsequent shows.

Daily Average Cotton Consumption In June Down From May And June '60

U. S. cotton consumption in June at 824,144 bales was up from the May total of 667,705 but down from last June's total of 860,363 bales. However, daily average cotton consumption for June was down from both May and June '60. The daily average totals are: June—32,966 bales; May—33,385 bales; and June—34,415 bales.

Some 8,439 bales of foreign cotton were consumed in June as compared with 7,540 bales in May and 9,206 in June of last year.

Consumption of man-made fiber staple at 49.6 million pounds was up from both May (39.9 million pounds) and from last June (45,232 million pounds).

Some 19,697 thousand cotton-system spindles were in place in June as compared with 19,728 in May and 19,989 thousand in June '60. Of these, 18,966 thousand were active in June as compared with 19,000 thousand in May and 19,305 in June of last year. Some 11.3 billion spindle hours of operation were reported for June as compared with 9.3 billion in May and 11.8 billion in June 1960.

Bleaching Wool With Hydrogen Peroxide

BLEACHING PROCEDURES CAN BE DIVIDED INTO THREE CLASSIFICATIONS—DRY-IN, STEEPING AND IMMERSION

By B. K. EASTON*

THE earliest wool bleaching other than using the sun was accomplished by hanging yarn in the fumes of burning sulfur. Sulfering or stoving, as the process was known, produced a nice white, but the white was not permanent. However, the process hung on even as hydrogen peroxide took over as the principal bleaching agent.

For years, many mills used a two-step bleaching process with hydrogen peroxide and then stoving. Today, few mills are doing any stoving while hydrogen peroxide has become the foremost bleaching chemical for wool.

Wool is wet processed in raw stock, tops, yarn and woven or knit goods. The bleaching procedures can be divided into three general classifications: dry-in, steeping, immersion.

Dry-In Bleaching

The dry-in procedure is simple, economical and continuous. It is used on raw stock by several of the larger carpet manufacturers as well as some of the wool scouring plants and has also been used for blanket material.

The bleaching chemicals are applied from the last bowl of the scouring train. This bowl and the rakes must be either stainless steel or be sheathed with lead. The usual scouring methods used employ synthetic detergent or soaps with soda ash and/or phosphates in the first two or three bowls. Hydrogen peroxide and a small amount of sulfuric acid can be continuously added to the solution in the last bowl of the train through siphons with calibrated orifices; rotameters; or by means of chemical proportioning pumps. The hydrogen peroxide concentration is maintained at around 2 volumes and the sulfuric acid at about 1/100 normality.

Acid concentration may be expressed in terms of normality but most references to this method speak of controlling acidity concentration by pH measurement. However, control by pH is not completely reliable. Salts formed in this solution, together with traces of suint left in the wool, build up an effective buffering condition, discrediting the pH measurement.

If the wool leaves the last bowl too far on the acid side, the peroxide is very stable and the desired color change will not take place. If the wool is left very far on the alkaline side, the peroxide decomposes too fast and the result is not satisfactory. Periodic titration with N/100 NaOH is a simple and effective way to control the acidity of the solution so the wool enters the dryer in a neutral or very slightly alkaline condition.

The wool is squeezed as it leaves the final bowl and is then dried at temperatures approaching 200° F. Most of the color change takes place in the dryer. This is a brightening of the wool which provides a more uniform color and enhances the dyeing characteristics.

This procedure has not been exploited to the fullest extent. An innovation which has definite possibilities is to build an enclosed conveyor, or a J-box, or any means which will permit a two-minute steaming of the scoured wool between the time it leaves the bowl with the bleaching solution squeezed in and enters the dryer.

By using a 2 to 4% solution of 35% H_2O_2, steaming two minutes, and then drying in the conventional manner, bleaching yields a white nearly equivalent to a three volume immersion bleach requiring about 2½ hours. The alkali solubility of this wool is lower than usually obtained after an immersion bleach.

The procedure just described has definite possibilities because the use of wool blended with certain of the synthetic fibers is growing and will continue to grow for sometime. It would be advantageous to provide a wool fiber of a whiteness equal to or at least close to the color of the synthetic fiber.

Cold Bleach

It is only a short step from the dry-in bleach to the cold bleach method. However, there isn't much cold bleaching of wool being done, despite the fact that it is a well-founded process. It consists of saturating the material with the bleach solution, setting the material aside for a lay period of at least six hours and then scouring for a short period before rinsing off. The bleach solution should consist of a sufficient amount of hydrogen peroxide to give a 4 to 6 volume bath and include a polyphosphate such as TSPP (5 lbs./100 gals.), ammonia (3 lbs./100 gals.) and a non-ionic detergent. The bleach solution temperature should be 80° to 90° F. During the seasons of the year when the water temperature drops to near 32°, it is well to heat the water to about 100° before adding the chemicals.

At one time, several small worsted mills were cold bleaching their worsted top. The balls were placed in a spool machine and the bleach solution was circulated 10 to 15 minutes, then run off. The spools were allowed to drain one-half an hour before removing them from the machine and placing them on special racks made in the mill at a nominal cost. After standing overnight, the balls were placed back on the machines and given several short rinses. Only one machine was used for impregnating the tops with the bleach solution and it was set up so the bleach solution could be pumped to a storage tank for rebuilding and then returned to the spool machine for the next load. Starting up in the afternoon, quite a few pounds of tops were saturated by quitting time and then rinsed off the next morning in several machines. Such a process would be worthy of consideration by the small mill.

Another use of the cold bleach method involves blended suiting. Thousands of yards of a once popular Summer suiting made up of wool, mohair and rayon were cold bleached by impregnating the rolls on a jig (two ends) and then racking the rolls to stand at least eight hours before putting them back on jigs for a short, combination scour-rinse. One jig was set aside for the impregnating and was hooked up with a tank. At the end of the day, unused bleach solution was pumped to the supply tank for storage until the next day.

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Because of its success on this type of material, the cold bleach would fit in well for bleaching small or special lots of today's blends. Take for instance, a blend of wool/Terylene. Because of the low temperature and low alkalinity, the Terylene would not be degraded. But why bleach at all when in all probability, the Terylene does not require bleaching?

It has been shown that a light bleach on wool definitely enhances its dyeing properties. The colors are brighter and seem to have a glow. This is particularly so on pastel shades. Moreover, if the wool is to be left undyed, the brighter white will complement the color on the other fiber.

Immersion Bleach

The third general classification for wool bleaching is immersion bleaching, used throughout the industry. It applies to the bleaching of stock in the conventional stock dyeing equipment. Construction materials used in this equipment must be compatible with hydrogen peroxide bleach solutions —avoid iron, copper in all forms, manganese, etc. An exception would be the mordant procedure for bleaching dark animal hairs. In this instance, iron is introduced to the interior of the fiber. Only by doing this can there we a satisfactory bleach for these pigmented fibers such as cashmere, alpaca, camel hair, Iranian wool, etc. The iron, usually in the form of ferrous ammonium sulfate, must be kept in the reduced state through the use of sodium hydrosulfite and by excluding air. Excluding air is no problem in a raw stock dyeing machine, but when handling fabrics in a dye beck there is trouble due to oxidation taking place as the cloth passes through the air. This is overcome by opening the loop and immersing the entire piece in the solution. Another idea would be used in an enclosed dye beck where an attempt should be made to seal off the fabric from fresh air by injecting steam into the atmosphere within the confines of the beck. An innovation uses an acid peroxide treatment between the mordant and the alkaline peroxide bleach. The acid peroxide treatment materially aids in obtaining a better bleach. The final operation is a sodium hydrosulfite treatment which may have an optical whitener added to the hydro solution after about 20 minutes. It is best and oftentimes mandatory to scour wool prior to an immersion bleach. Better grades of wool require only a mild scour using a detergent and ammonia, or for the highest grades, only the detergent. Darker and more coarse wools generally require and can stand a little soda ash with the detergent.

Immersion bleaching of sheep's wool has always followed pretty much of a set procedure dictated by the sensitivity of the wool to alkali and oxidizing chemicals, particularly at elevated temperatures. Because it is mandatory to use relatively mild alkali and keep the temperature low, many bleach runs will last two to three hours. One of the more popular methods for woolen or worsted yarn runs overnight. The skeins or packages are loaded into the machine in the late afternoon. The bleach solution is run in and heated to about 125° to 130° F. In the case of machines like a Hussong or in package bleaching the solution is circulated while heating and for perhaps 15 to 20 minutes after the temperature reaches 125° F. Then the pump and the steam are shut off and the yarn sits in the solution overnight. In the morning, the bleach solution is drawn off and the yarn rinsed in the usual manner. Some mills use plain vats with no circulating system. The skeins are just laid in the vats and the liquor run in. Regardless of the style of equipment, it is important to see there is sufficient solution and that the skeins are held below the liquor surface throughout the bleach.

The bleach solution used for immersion bleaches whether they be yarn or fabric should contain sufficient hydrogen peroxide to give one to three volume concentration. In addition, there will be one to three pounds of a polyphosphate, such as TSPP, and one to two pounds of ammonia, all based on 100 gals. There might be some advantage in using a small quantity of an EDTA chelating agent, particularly with pulled wool which may carry calcium into the bleach solution.

Sodium silicate for a stabilizer and alkali builder has not been mentioned. Most wool processors frown on the use of silicate and claim it leaves the wool harsh. Nevertheless, sodium silicate is used occasionally and with good success. In one instance, a better white was attained when using sodium silicate in place of the phosphates and ammonia. The use of 1 to 1½ pounds of the water clear, sodium silicate per 100 gallons of bleach solution has been suggested.

Another chemical which has been used with quite good advantage in a peroxide bleach solution for wool is potassium persulfate. Only a small quantity, about 1 to 1½ pounds per 100 gallons, is required to give a boost to the white.

Larger quantities of potassium persulfate do not result in any further improvements. Excellent whites before optical dye application have been attained on wool yarn by using a two volume hydrogen peroxide concentration, one pound of potassium persulfate and two pounds of TSPP per 100 gallons of bleach solution. The bleach ran 1½ to 2 hours at 140° F.

Some leeway is permitted in setting the temperature, depending upon the equipment. When using a Klauder-Weldon type machine or a jig or dye beck, or any unit in which the material is not immersed the full time, the solution temperature can be increased to 135° F. or even 140° F. By so doing, the white is improved and/or the bleach time is shortened.

What other chances are there for shortening the wool bleaching cycle? The wool processor is just as anxious as the cotton finisher to get the highest production possible from his equipment. Those who have worked on short time cotton bleaching have always been surprised at the rugged treatment cotton will endure as long as the treating time is short. Strong indications are that the same situation exists to a certain extent with wool. One mill is bleaching wool yarn in one hour by raising the temperature as fast as possible to 160° F. and holding there. Another scours for 20 minutes at 125° F. with a non-ionic detergent and then bleaches in 30 minutes with the temperature at 180° F. The bleach solution was 1¼ volume peroxide and contained per 100 gallons 2 ozs. of an 80% active sodium salt of EDTA, ½ pound TSPP, and 5 ounces of ammonia. The yarn was rinsed and finished off with an optical dye.

Outstanding results have been obtained in laboratories by raising the temperature of the solution as quickly as possible to 185° F. and holding there for 15 to 20 minutes. For this purpose a 3 volume bath with two pounds of hexametaphosphate and one pound of sodium bicarbonate per 100 gallons was used. The white was definitely equivalent to a 3 volume bleach run 2½ hours at 125° F. The alkali solubility was a few percentage points higher than obtained from the conventionally bleached wool.

To make this a plant procedure, the steam supply to the machine would have to permit rapid heating of the solution. Those who have tried this drastic departure from conventional systems seem satisfied with the results.

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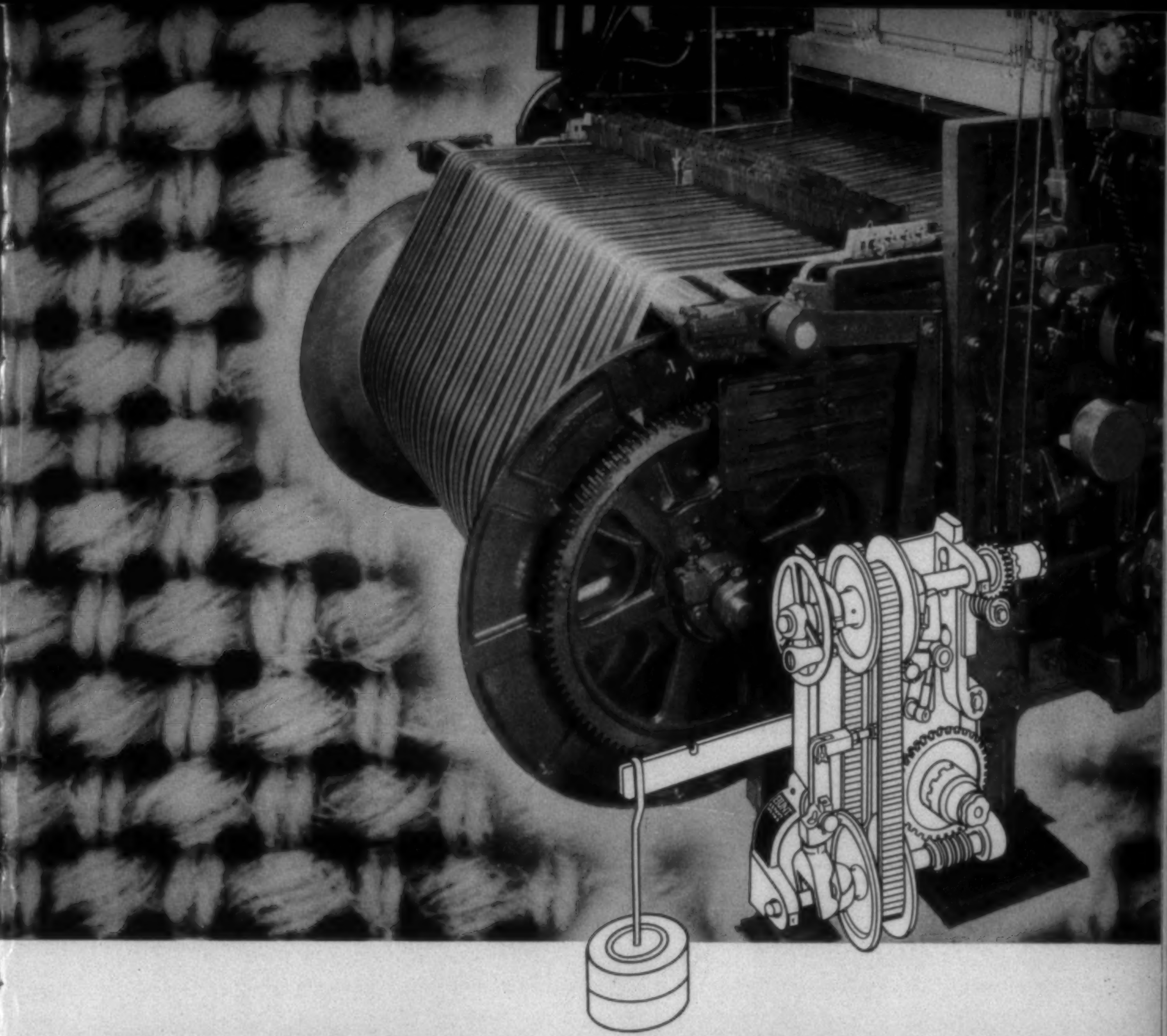

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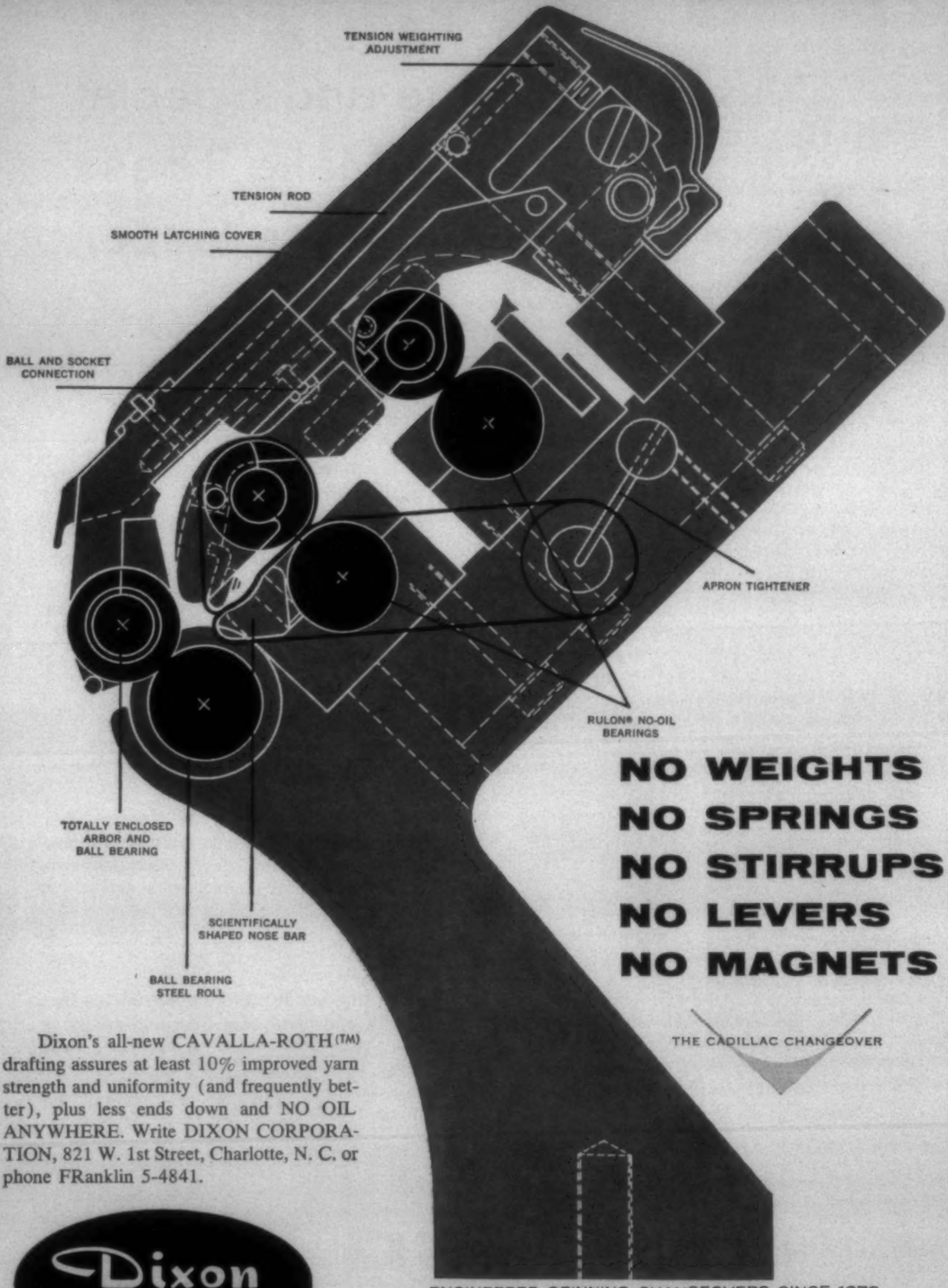
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If It Doesn't Add To Yarn Quality—Drop It

WILL AUTOMATION IN YARN SPINNING MEAN THE ELIMINATION OF ROVING AND CHANGING OF ALL PRESENT PACKAGE FORMS?

By CLAYTON EASTWOOD

IS truly automated cotton or blended yarn preparation a practicality either now or in the foreseeable future? If we define automation as being stuffing raw stock in the back of a machine and doffing clean, uniform yarn of the proper weight on cones, the answer is, of course, no.

No such machine is commercially available at this time nor is one known to be in the works. It's anybody's guess how long it will be before cotton or blended yarn manufacture reaches true automation. Before examining the possibilities of truly automated yarn preparation:

(1) the idea must first be brought out of the realm of new-fangled science-fiction; and

(2) the ultimate purpose of yarn preparatory processes must be specifically stated.

Automated yarn preparation is not so remote as to be in the science-fiction area. With the growth of modern technology, nothing seems to be in that category anymore. We are certainly a lot closer to automated yarn preparation today than great-grandmother was with her spinning wheel. As a matter of fact, automated spinning was attempted as far back as the late 1700s when a Gin-Spinner appeared on the scene. This gadget featured gin saws at the back, a carding cylinder and a set of wooden flyers. It was fed raw stock and delivered yarn. In operation, it was truly automatic. The uniformity and appearance of this yarn and the efficiency of the machine is, of course, open to question.

Purpose Defined

What is the purpose of yarn preparatory processes? Yarn preparation is simply the economic production of a relatively clean and uniform package suitable for subsequent processes—whether warping, weaving, knitting or quilling. With this definition serving as our background, each step in production must be examined to determine whether or not it adds anything to the appearance or quality of the yarn. Those processes that do not add to the final product must be eliminated.

With this in mind, let's automate our mill as far as is possible today, remembering that we will not modernize any process that can be eliminated. This is a point at which the industry has perhaps made its mistake in the past. Processes have been kept and modernized just because they have always been there.

Most Serious Error

The most serious error, however, may be in the theory of yarn manufacture itself. This mistake is to do the blending of solid color stock *in the mill processes.*

The formula for success in yarn manufacturing has two sides: blend thoroughly and control drafts carefully. One of the main reasons the mill of some years ago ran so well was because there were 10 or 12 distinct processes involved. Drafts were low in all of them. And, because of the far greater number of doublings involved, a high degree of fiber-to-fiber blending was achieved. In effect, the old mill blended stock *in the mill processes.*

Mills operating now are still faced with the need to thoroughly blend stock. But the high cost of equipment, maintenance and labor have resulted in the elimination of old-time processes which did add to the end product.

Here, then, is the dilemma. If steps which do add something to the end product are eliminated because they cost too much, we violate our rule of only removing unnecessary processes. At the same time, if we keep the processes, this violates the rule that blending should not be done in the mill processes.

The obvious solution to this problem is to do the blending *before* the mill processes. Pre-blend in massive proportions—automatically—and with minor costs compared to in-mill blending. Massive blending is the cornerstone on which the automated mill will be built.

Examining Our Processes

Examine the processes currently in conventional use. In carded yarn mills, there are six yarn preparatory processes—opening and picking, carding, breaker and finisher drawing, roving and spinning. Before and during processing the stock appears in seven different packages—bale, lap, three kinds of sliver, roving and yarn. Are they all necessary?

Lap Necessary?

Does rolling calendered stock into lap form after it passes through the picker add anything to the end-product? No. But even worse, making laps adds to mill costs because of handling. After stock has been opened, cleaned and delivered to the finisher section of the picker—before being calendered and rolled up in lap form—it is in ideal condition to be carded. But most mills don't take advantage of this fact.

One step toward automation, then, would be to take stock from the finisher beater section and transport it pneumatically to stations (to be described later) behind each card.

So far, we are retaining the picker, since it does add to the end product, but are eliminating the lap form as a package.

What About Carding?

What about carding? Carding adds something to the finished product and will be retained. But its appearance will be changed considerably. Mounted above and behind each card will be a metering drop box. The correct amount of cotton will be dropped from the box at pre-determined intervals. The stock will be carried on rubberized fabric aprons under presser rolls to the feed roll of the card.

From the feed roll to the bottom calender rolls, the card will operate conventionally with metallic wire on cylinder, doffer and flats. The carding action of the cylinder and doffer and the cleaning action of the licker-in and flats meet our standard and will be retained.

Again the "packaging" does not meet the standard. Placing sliver from each card into an individual can does not add anything to the end product. It is nothing more than a matter of convenience at present. Canning is just something that is done to creel breaker drawing.

The automated mill will eliminate the card can as a package. Cards will be blocked and sliver fed to a draw-box—similar to that of a conventional high speed comber—drafted and then placed in a can. But instead of being card sliver, the stock is now in the form of breaker drawing. Thus the elimination of the card sliver package combines with the elimination of the need for creeling behind breaker drawing frames and the replacement of breaker frames with a draw box.

Finisher Drawing

In effect a one-process drawing system (because of the blocked-card draw box it would be finisher drawing) is currently available from several sources. The top speed limit of the equipment has not really been determined, but it is claimed that 800 to 1,000 feet per minute is possible and practical. The big advance to be made in drawing is not in the drafting zones or stop motions but is in the new type package for the drawn sliver. Instead of canning the stock in an oil-drum size container, the new package should be shaped so that it can be mounted in the creel of a sliver-to-yarn spinning frame and will probably resemble a conventional ball warp.

A serious problem to be faced by the automated mill will be that of yarn count variation caused by the drastic reduction in the number of doublings. For this reason the drawing frame will be fitted with an automatic weight controlling device. Long-term weight variation of sliver will be eliminated entirely; bobbin-to-bobbin yarn weight variation will be eliminated; and within-bobbin yarn weight variation will be low because of the close control of fibers during drafting. This close fiber control will result from precisely built and set drafting elements, minimum amounts of gear and roll run-out and uniform roll weighting systems.

Where Did Roving Go?

The mention of a special finisher drawing package fitting spinning frame creels makes obvious the fact that the roving process is gone. It does not meet the standard of adding to the finished product and is eliminated as a separate function.

Sliver-to-yarn equipment currently on the market is capable of drafting 600 to 800 even though it is built with little more than usual precision. The trouble is, practically all mills run a 600 to 800 draft in two processes—roving and spinning. A draft of 18 is quite common on roving frames. A draft of 50 is quite common on spinning frames. Multiply the two together and the total draft in the process is 900—more than stated above. The combining of these two draft ranges onto one machine will eliminate roving processes in the automated mill.

After drafting, why waste time, money and effort twisting and packaging roving? The twist only makes the spinning drafting element's job tougher. The extra package only adds to the unevenness of the roving and causes differences in weight per unit length and roving strength. A sliver-to-yarn spinning frame is the simplest answer.

Spinning Package

Applying the standard of adding something to the finished product to the spinning package — warp bobbin or filling quill — shows that this item does not measure up. It is doubtful if *any* type of package could fulfill the criteria, but a more efficient package is available than either the bobbin or quill. This is the cone.

Now before you begin objecting that the filling quill is more fitted to the automated mill since it is ready immediately after doffing for use on the loom, remember that the fly shuttle loom will be eliminated by automation. Apart from that, the quill fills up quickly, causing greater down-time for doffing, and increased labor and handling.

What about other questions? It this cone large enough to improve the machine efficiency? Is it adaptable to the automatic doffing mechanisms? Are automatic doffers necessary or are they made obsolete by the large spinning package?

Again, there are no answers to these questions. But the cone fits our standard closer than any other idea yet advanced. The cone-shaped spinning package provides these advantages: increases spinning frame efficiency because of its large capacity; reduces labor for doffing and handling; is adaptable for subsequent processes such as shuttleless weaving, knitting or warping; possibly makes obsolete automatic frame doffing; and reduces handling, storage and bobbin or quill costs.

What Does It All Add Up To?

What do all these ideas for the most nearly automated mill of today add up to?

First—remember that at the beginning we set as our goal the production of a clean uniform yarn with the fewest processes.

Secondly—remember that doublings can and must be eliminated by a more thorough means of blending. If really thorough blending is done before the stock enters the plant, handling, packaging and processing costs can be reduced dramatically.

Third—packaging and packages would be changed in every in-mill process. Laps are eliminated. Card sliver in cans is eliminated. Cards will be blocked and feed a draw-box which would coil sliver in cans. Finisher drawing sliver would be packaged in a manner adaptable for a spinning creel—possibly resembling a conventional ball warp. Yarn would be spun and wound on a cone about the size of a winder cone. There would be no more finisher drawing cans, or spinning bobbins or quills to handle.

What do you think?

North Carolina Vocational School Announces Beginning Of Classes

The North Carolina Vocational Textile School, Belmont, N. C., has announced the beginning of new classes on September 1 in all departments, yarn manufacturing, weaving and designing, knitting, mill maintenance and tailoring. New classes start on all shifts, 8:20 a.m. to 1 p.m., and 1 to 3 p.m. On the night shift the school will start new classes in yarn manufacturing 5 to 7 p.m. and mill maintenance 5 to 9:30 p.m.

How To Design And Lay Out Multiple Fabrics

DOUBLE PLAIN WEAVE, A HIGHLY COMPETITIVE UPHOLSTERY FABRIC, MUST BE WOVEN AS ECONOMICALLY AS POSSIBLE

By E. B. BERRY

PART 3

TUBULAR fabrics were reviewed in the first installment of this series. This chapter deals with the designing of a fabric that has two layers of cloth, each is plain weave, but the face and back fabrics interchange to form stripes and checks.

Callaway Textile Dictionary defines "Double Plain Cloth:" A combination of two plain cloths woven together, one above the other. They may be bound together only at the edges as in a tubular cloth, or the face and back fabrics may change places to form stripes, checks or fancy effects.

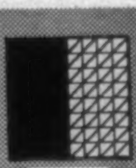


Fig. 1

Fig. 1 is the color motive for a fabric. The solid black will represent black in the fabric, and the shaded area will be green in the cloth. In a double plain, there will be stripes of black on the face, 4 ends wide. Directly under this layer there will be a stripe of green on the back, 4 ends wide.

Next to these ends, there will be a stripe of green on the face, 4 ends wide, and under this layer there will be a stripe of black on the back, 4 ends wide. Because each layer is plain weave, there is no weave contrast or interlacing contrast, therefore, colors are generally used to bring out the desired effect.

The first step in the lay-out of this fabric is to establish the color arrangement of the warp and filling. There is seldom a problem in the warp direction, for usually both layers are the same yarn number and same sley. Therefore, the sequence in this case will be 1 black-1 green. Since there are 4 black face ends in the first stripe, and 4 green back ends too, it will take 8 ends to make this area. Also, 8 more ends are required for the second stripe. Thus 16 ends are needed for the warp repeat.

The filling sequence is more difficult. If the filling is inserted 1 black-1 green, a pick and pick loom is required. This is easier in designing, so this method will be used in this first illustration. It will take only 4 picks to a filling repeat (2 black-2 green), but 8 picks will be painted.

In Fig. 2, the color arrangement for the warp and filling is shown. In the area where the weave is to be painted, back ends and picks are designated. The 8 ends and 8 picks on the left are to be black on the face, therefore, the shaded (green) ends and picks in this area will be identified with a dot to show they are to be in the back layer. Similarly, the 8 ends and 8 picks on the right are to be green on the face, therefore, the solid (black) ends and picks in this area will be identified with a dot, to show they are to be in the back layer.

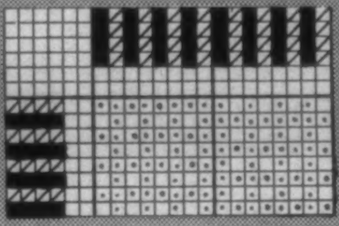


Fig. 2

The next step is to paint the face weave on face ends and face picks. From the name of this fabric, "Double Plain," both layers are plain weave. Fig. 3 shows the face weave on its ends and picks.

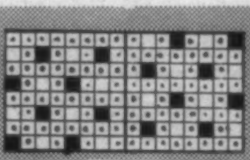


Fig. 3

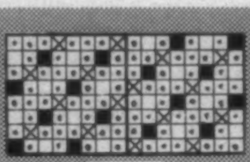


Fig. 4

In Fig. 4 the back weave (plain) is added on the back ends and back picks. At this point, the weave is a 1 up-3 down 45° right-hand twill. The loom does not know that we want a double plain fabric, and that the warp and filling are arranged 1 black and 1 green.

Face ends must be raised over back picks in order to separate the layers and make two fabrics. This is illustrated in Fig. 5. A tape selvage is included, because it makes a trim

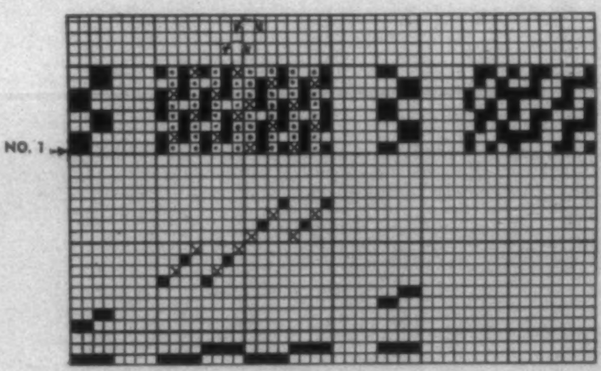


Fig. 5

looking edge, but also it is needed to open up the ends, for both face picks and back picks will interlace with the same selvage ends. Also shown is the drawing-in draft, reed plan and chain plan.

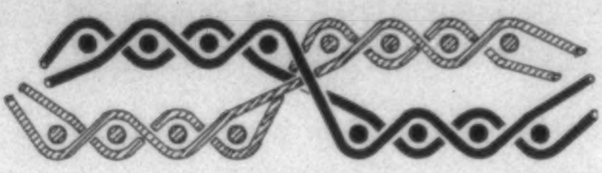


Fig. 6

Fig. 6 shows the cross-section (cut parallel to the filling) of the weave in Fig. 5. Note there is no stitching to be done as in the double cloth reviewed last month. The black ends and picks weave plain on the face, then the black fabric goes to the back and weaves plain on the back. The movement from face to back is a binding or stitching in itself. The green does the same thing, and there is a binding where it goes from the back to the face. Thus, this fabric is a series of small tubes, each 8 ends wide, as seen in Fig. 6.

This fact must be kept in mind in designing work. If stripes of 10 inches wide are wanted, this can be woven, but the fabric may tend to buckle. Stitching is done only once in every 10 inches, and between these points there are two layers which may tend to fold on themselves.

The simplest double plain cloth will require 8 harness for the body fabric. In any area, 2 harness are required for the face fabric (plain weave) and 2 harness for the back fabric (plain weave). This is a total of 4. The colors must reverse, and 4 more harness are required for this new area. Thus the minimum is 8 harness. This is a point to consider in designing. For each change in pattern, 4 additional harness are required. This counts up fast and the capacity of a dobby loom can be exhausted without getting too elaborate a design.

One quick check on the accuracy of the painting of the weave is to see that there is a clear break between colors where the layers go face to back, and from back to face. The arrows on the top of Fig. 5 illustrate this point. Ends 7 and 9 are both black, but 7 is in the face, while 9 is in the back. These two ends must make a clear break, that is, where raisers appear on one end a sinker must be on the other.

The second check is to compare ends 8 and 10 as seen by the second arrow on the top of Fig. 5. Both these ends will be green in this fabric, but 8 is in the back, while 10 is in the face. These two ends also must have raisers opposite sinkers to make the clear break.

In the reed plan, 4 ends per dent are shown. This is reasonable, and will not crowd, for there are really 2 layers of fabric. Each layer is plain weave, or 2 ends per repeat, and there are 2 layers for a total of 4 ends per dent.

A typical double plain fabric for upholstery use is as follows:

54" — 120 ends × 80 picks — 32/2 × 16/1

7% Warp Contraction, 4% Filling Contraction

This has a K_1 of $\frac{120}{\sqrt{16}} = 30$, and a K_2 of $\frac{80}{\sqrt{16}} = 20$

This would be impossible to weave, as a single layer, but with 2 layers, it is very pliable, and hangs well for upholstery and drapery use.

A more elaborate motive is shown in Fig. 7. This will create checks in the fabric, and is much more interesting than the plain stripe of Fig. 1. One block in the motive can never be equal to one end in the cloth. For every face end there must be a back end in the cloth, therefore, the cloth ends must be at least twice the ends in the motive.

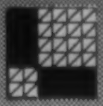


Fig. 7

In Fig. 7, each block in the motive will represent 4 ends and 4 picks in the cloth. This makes 6 × 4 = 24 ends and picks in the weave.

The warp color arrangement is 1 black-1 green, which makes it easy to dress the warp. It also has an added advantage in checking the color sequence in the leases. A lease is picked at the slasher and also at the loom. These are generally one and one. With the warp arranged one and one, all the ends of one color are in one sheet, and all the ends of the alternate color are in the mate sheet. Should an end get in the wrong sheet, it is easy to spot the defect.

Most double plain fabrics are highly competitive and, therefore, must be woven as economically as possible. This would mean weaving on a 4 x 1 rather than a 4 x 4 box loom. The filling sequence is therefore two picks of each color rather than one and one. It is advisable to start with one pick of a color and therefore end with one pick of the same color.

This will require resetting the dobby knives. Usually the bottom knife moves out when the shuttle goes from left (drop box) side, to the right, and the top knife moves out when the shuttle goes from the right to left. With the design starting with one pick of a color, the dobby head must be changed, so the top knife will move when the shuttle goes from the left (drop box) side to the right, and the bottom knife moves out when the shuttle goes from right to left. Fig. 8 shows the color sequence of warp and filling.

One major problem in laying out any double plain fabric, is to be sure that the proper color will appear in the proper position in the cloth, so that it will produce the desired effect

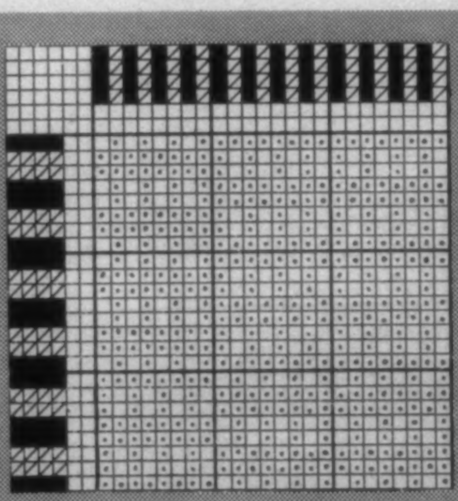
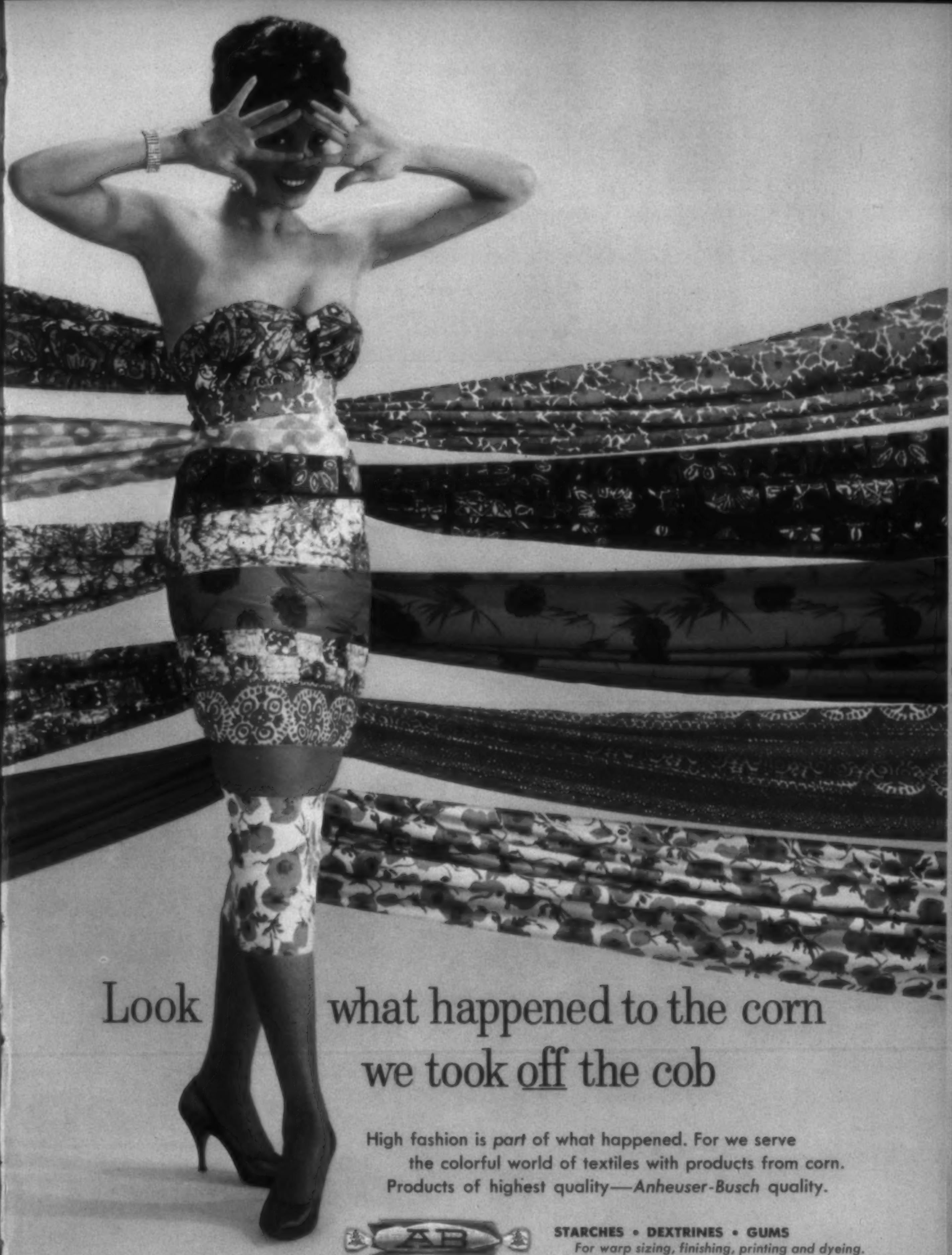


Fig. 8



Look what happened to the corn we took off the cob

High fashion is *part* of what happened. For we serve the colorful world of textiles with products from corn. Products of highest quality—*Anheuser-Busch* quality.

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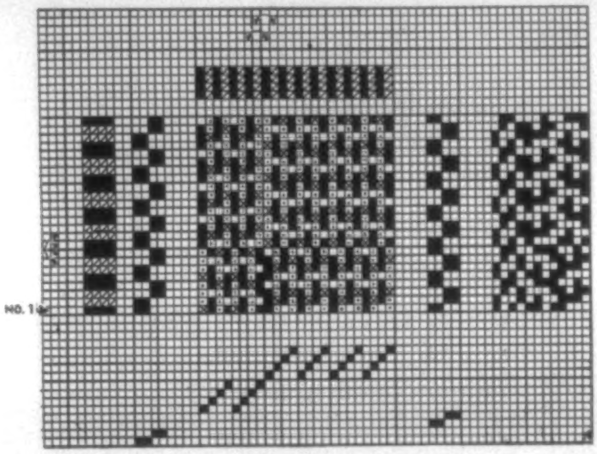


Fig. 9

from the motive. From Fig. 7, the lower left-hand corner is to be green on the face, therefore, the black ends and picks in the weave must be in the back layer. Fig. 8 shows this step. Note, this is not the weave. It merely identifies which ends and picks are back, and in which area.

The completed weave is shown in Fig. 9. A tape selvage is included. Also shown is the drawing-in draft, reed plan and chain plan. Face and back ends are not identified as such, in the drawing-in draft. Sometimes the black will be on the face, then it will go to the back. The same is true of the green ends. Only 8 body harness are required.

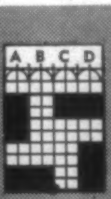


Fig. 10

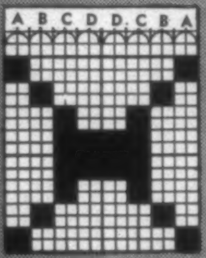


Fig. 11

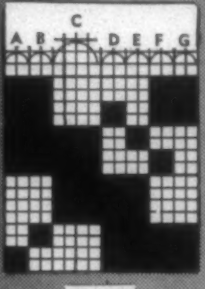


Fig. 12

Checking for a clear break is seen between ends 7 and 9, also between ends 8 and 10. This is in the body of the design. It must also be checked on the edges as well. End 1 must break clear with end 23, and end 2 must break clear with end 24.

When a check is made, the filling must make a clear break too. Picks 8 and 9 have raisers opposite sinkers; the same is true of picks 7 and 10. This is in the center of the design. Pick 1 and 24 must break, as well as pick 2 and 23.

More elaborate motives are used when a fancy fabric is desired. Fig. 10 is a simple motive, which has 4 different variations of ends, A, B, C and D. As stated above, it takes 4 harness for each variation, or 16 harness in this case, for body only. Selvage is extra.

Fig. 11 is a bigger motive, but has only 4 variations in the pattern. The two outside sections are the same, (A), then both left and right ends come to the center and are the same. This will only take 16 harness for body.

When the fancy motive is desired, the number of harness required build up fast. In Fig. 12 it will take 7 variations × 4 or 28 harness for body, plus selvage. This is getting near the limit of a dobby loom. Some of the very fancy double plain fabrics are woven on a Jacquard loom for this reason.

Carded Yarn Association Schedules Annual Meeting For September 20-23

The Carded Yarn Association will hold its annual meeting at the Cloister, Sea Island, Ga., September 20-23. R. Dave Hall, Climax Spinning Co., Belmont, N. C., president-elect of the American Cotton Manufacturers Institute, and H. Glastra, Qualitex N. V. Electronische Apparatenfabriek, Enschede, Holland, will be the principal speakers at the convention.

Approximately 120 industry representatives are expected to attend the meeting. If custom is followed, W. R. Austin, first vice-president, will succeed O. Leonard Moretz as president. D. B. Banks will move up to the post of first vice-president from his present post of second vice-president.

Hall and Glastra will speak at the open meeting Friday morning. The golf tournament will be held Friday afternoon. The final event will be the banquet Friday evening. Graham Morrison, Lincolnton, N. C., will be the banquet speaker.

Dept. Of Commerce To Study Effects Of Mills Closing In Six Southern Towns

Six Southern towns are included in a study the Department of Commerce is making of the economic dislocations that come about in textile communities when the mills close. They are: Anniston and Gadsden, Ala.; Newnan, Ga.; Rockingham, N. C.; and Covington and Roanoke, Va.

Secretary of Comerce Luther H. Hodges, said that his department wants to "take a close look at the nature and extent of dislocations where mills have closed. While we will not in this particular instance study the causes of closures, we hope to cover such matters as the effects on employment and population, on retail trade, municipal services, tax receipts, public utilities, real estate values and memberships in organizations including trade unions."

Hodges said the study will provide another source of information in the Administration's continuing effort to find solutions to the textile problem. It is hoped that the study will be ready for publication early in 1962.

Kendall's Latest Modernization Is The Addition Of 100 New X-2s At Its Upper Plant, Pelzer, S. C.

THE NEW 50-INCH LOOMS REPLACE 106 40-INCH MODELS AND ARE EXPECTED TO INCREASE SPEEDS BY SOME 15%

TO meet consumer trends toward wider cloth and combat rising costs of manufacture, The Kendall Co. recently installed 100 brand new Draper X-2, 50-inch, high-speed cam looms and two new high-speed, ten-can West Point slashers in its Upper Plant in Pelzer, S. C., at a cost of over $300,000.

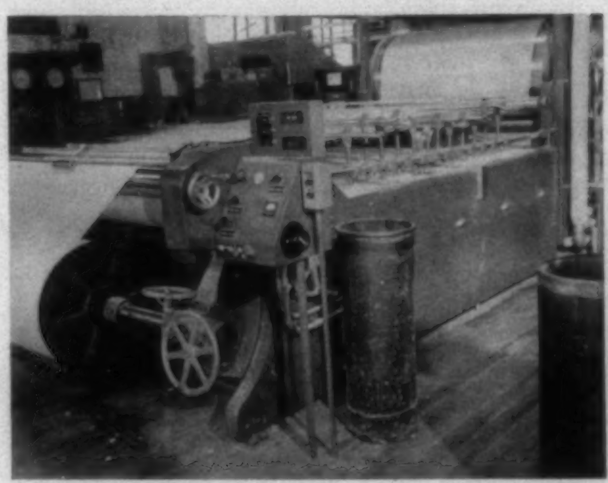
The new looms were purchased to replace 106, 40-inch Draper Model K cam looms, producing broadcloths and poplins. The older looms are being equipped with dobby heads and installed in Kendall's Oakland Plant at Newberry, S. C.

Herman Taylor, general manager of both the Upper and Lower Plants in Pelzer, reports that the new looms, running at the same efficiency as the older looms, would accomplish two things — produce wider cloth and increase speeds by some 15%.

When asked why the company had chosen the X-2, Mr. Taylor said that it had investigated other looms, including the shuttleless, but that due to the type fabrics made at the plant, chose the X-2.

The new looms incorporate the familiar right-hand filling fork stop motion, an electric warp stop motion and the Hunt Let-Off. The harness are operated through a cam system to bring them down and a spring-clock system to raise them.

Both of the Pelzer plants had been using the Hunt Let-Off on an experimental basis and found that the unit resulted in less trouble with thick and thin places and offered improved quality and decreased maintenance costs.



New West Point ten-can slashers have replaced six older slashers. The comb spread on the slashers is wide enough to handle a beam some 60 inches between heads.

The Kendall Co. has installed 100 50-inch Draper X-2 looms in its Upper Plant to replace 106 Model K, 40-inch looms. At present their speed is some 15% greater than that run on the Model K's.

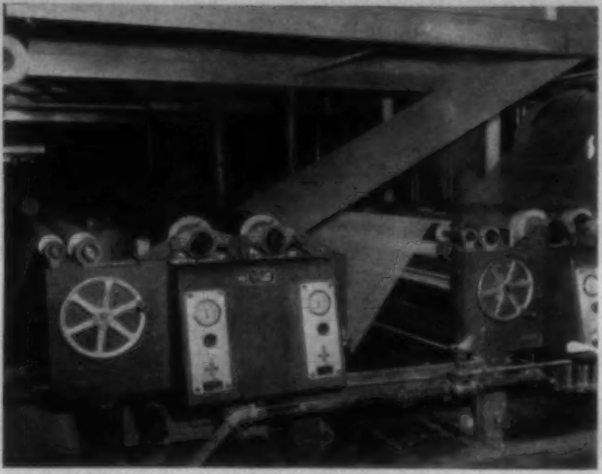
Two Replace Six

Equipped with Westinghouse drives and moisture controls by Strandberg, the new slashers are the ten-can high-speed West Point slashers with the double size box. They were obtained to replace six older two-can slashers.

The speeds on the new slashers will vary because of the many different constructions used in the plant. They range from a 44 sley up to a 116 sley. The slasher creels will accommodate 14 beams and the comb spread is wide enough to handle a beam some 60 inches between heads.

Originally, the Pelzer Upper and Lower Plants belonged to a concern known as the Pelzer Mfg. Co., organized in 1881 by F. J. Pelzer, William Lebby and Ellison Smyth. At that time there was only what was called Mill 1, built in 1881. As the venture grew, Mill 2 was constructed in 1887; Mill 3 in 1890; and Mill 4 in 1895.

The group was sold to Lockwood-Greene (New England Southern Mills) Engineers Inc., New York City, in 1923 for some $9 million. The Kendall Co. bought them out in 1936



The new slashers are of the two size box variety and incorporate Westinghouse drives and Strandberg moisture controls.

and consolidated Mills 1, 2 and 3 into the Lower Plant, and designated Mill 4 the Upper Plant.

The Lower Plant now has seven weave rooms in the production of wide sheeting, diaper cloth, dish towel fabrics and narrow sheeting with a total of 1,155 looms. Out of a total of 418 pieces of machinery other than the looms, the Lower Plant has some 138 cards, six pickers, 20 drawing-frames totalling 236 deliveries, 24 roving frames totalling 2,688 spindles and 221 spinning frames with 53,448 spindles.

In 1947-48, a rehabilitation program in the Upper Plant was started at the cost of approximately $2.3 million. This modernization included a new opening room and machinery, modernized pickers, new roving frames, lap machines, drawing frames and spinning frames.

The most recent installations in the Lower Plant have been the setting up of 122 Swiss manufactured Staubli dobby heads and two air exchange systems in the weave rooms.

The air exchange systems in the Lower Plant are of the dry duct type. The last two rooms to be equipped with this system are using the American Moistening system. Two of the other five weave rooms have the Bahnson system which was installed in the latter part of 1959. The remaining three rooms were equipped with American Moistening equipment last Summer.

Scored Firsts

The Upper and Lower Plants have scored several firsts in cotton mill history.

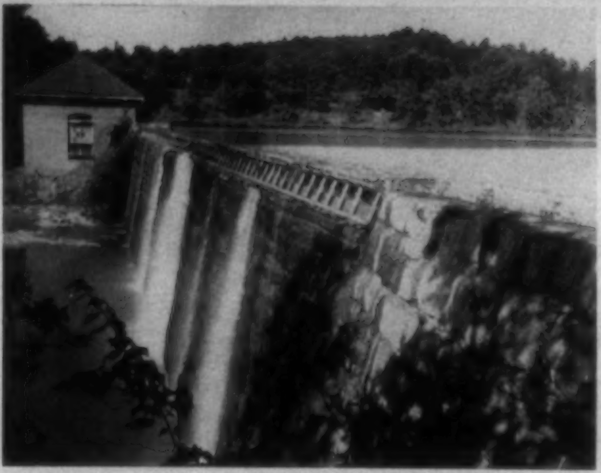
Old Pelzer Mfg. Co. installed the first electric drives ever used in a cotton mill in Mill 4 in 1895.

The first 1,000 Draper automatic looms ever sold were installed at Pelzer.

Mill 1, which is now part of the Lower Plant, had the first incandescent lighting system ever installed in a cotton mill. The original lighting system consisted of kerosene oil lamps.

Pelzer bought the second, third and fourth warp tying machines ever sold.

A hydro dam was the first ever built from its inception for the express purpose of generating electricity to be used for manufacturing operations. The old mills were the first plants in the country to convey electric power from a distance to run a mill. This system covered some four miles from the Lower Hydro Plant to Mill 4.



Kendall's Lower Hydro Plant at Pelzer has the distinction of being the first ever built for the express purpose of generating electricity to be used for manufacturing purposes. It also supplied electricity for the first conveyance of power over a distance of four miles—from it to the Upper Plant.

Until the early 30s all power required for plant operations and the company's village was generated in Pelzer. The Lower Dam and Hydro Plant were completed in 1895 and now have five water wheels and generators with a capacity of some 3,600 KW.

A steam plant was built and started up in 1905 with ten, 150 h.p., coal-fired boilers operating a 1,500 KW turbine generator. The steam turbine plant was closed in 1935 and the Duke Power Co. began furnishing electrical power to supplement the hydroelectric plants.

The Upper Hydro Plant, with three water wheels and generators, was completed in 1920. This system has one of its wheels under part of the Lower Plant and produces some 1,920 KW.

Together, the Upper and Lower Hydro Plants furnish about 50% of all the electrical energy required for manufacturing operations.

Kendall owns some 850 acres of land in the Pelzer community of 2,800 people. It continues to rent 38 houses to its supervisors and professional people in the township. It employs approximately 1,250 to 1,300 people and has a combined total square footage of 470,000 in Pelzer.

Completed in 1920, the Upper Hydro Plant has three water wheels and generators, one of which is still located under the Lower Plant. It was designed to produce some 1920 KW.

The Loomfixer And His Job

Part 32

LOOM OVERHAULING IS AN EXCELLENT METHOD OF TEACHING THE LEARNER LOOMFIXER HIS JOB

By WILMER WESTBROOK

REGARDLESS of how well the preventive maintenance program is followed in the weave room, there will still be need of an occasional loom overhaul. The overhauling may be a complete job of taking the loom apart and rebuilding it, or it may be the disassembly, cleaning, repair and adjustment of one motion such as the let-off, take-up or dobby.

Some mills have an overhauling program in which several looms are removed from the floor, taken to a separate room for overhaul, and replaced with looms that have already been rebuilt. This system offers a number of advantages:

—Machine downtime is kept to a minimum because extra looms are put into production to replace those that are being overhauled.

—A better job of taking down, cleaning, inspecting parts, rebuilding and adjusting can be done in a room away from the production department.

—Except for the time required to remove the looms and to replace them, the overhaulers are out of the way of the production workers.

—Special jigs, gauges, power tools and other aids can be used in the overhauling room.

Methods Of Overhauling

Many mills use one or more experienced loomfixers with a crew of learners to do general overhauling. This method provides good training for future loomfixers and the work can be done at less cost to the mill than is possible when all the work is done by experienced loomfixers.

Since repetition of a movement or operation is the best way to gain efficiency, the learner loomfixer can be trained faster and better on overhauling chores than is possible doing routine repairs on a section.

The learners should be rotated periodically so that each one will learn to take down, reassemble and adjust all loom parts and motions.

Some mills do not have an overhauling crew but require the section man to do any overhauling work that is necessary. For heavy work such as installing loom sides, cam shafts, crank shafts and other parts that are hard for one man to handle, the fixers on adjoining sections swap work.

One method of overhauling that fits into the preventive maintenance program is for each loomfixer to overhaul one motion each shift. The looms on the section are divided into three equal parts and the fixer on each shift is responsible for the overhauling work on one third of the section.

For efficiency and to avoid unnecessary work, a simple record of overhauling work should be kept. This record should show when each major part of each loom was overhauled and by whom. In this way the supervisor and the loomfixer will know not only when each loom received attention, but also who to blame for shoddy work or who to praise for a job well done.

It is a part of the first-line supervisor's job to inspect any loom that is producing off-quality cloth or that has an output below average. In most cases the ailing loom needs only minor repairs or adjustments.

However, sometimes there is more than one thing wrong with the loom and the supervisor prescribes a partial or even a complete overhaul. A check list can be used by the supervisor when he diagnoses the trouble and this will help the loomfixer in his work. The loomfixer should not limit his attention to the items listed but should replace, repair or adjust any part that is not operating as it should.

When the overhaul job is completed the loomfixer should return the check list tag to the supervisor who will again inspect the loom to see that all work has been done correctly.

To expedite general overhauling, a schedule should be followed so that parts can be obtained in advance. For instance, if all the let-off motions are to be overhauled the supply clerk can estimate the number of shafts, gears and other parts that will be needed and have them ready. Otherwise, some of the let-off motions may be disassembled and then have to be reassembled with some parts that should be replaced but are not available. Time taken to do advance planning on an overhauling program will save time and labor later.

Any loom that has received a major overhaul should be checked and reinspected several times within the next few days. It is almost impossible to do this type work and have each part set so that it will function perfectly without some adjustments after the loom has been in operation for a few hours.

Whether the overhauling work is done by a special crew or by the section men themselves, all loom parts should be installed and set to the mill's standards. Gauges and settings should be used exactly as they are in routine repair and general maintenance work.

Some mills have an entire line of looms overhauled or rebuilt at one time.

Do You Have What It Takes To Be A Supervisor?

BEING A SUPERVISOR DOESN'T MAKE YOU A DEMI-GOD SO BE YOURSELF AND ACCEPT YOUR OWN LIMITATIONS

PART 5

By WILMER WESTBROOK

ALEC Barnes was promoted to replace a supervisor who had reached retirement age. Alec was well-qualified for the job—experienced in all phases of the work, he had served for some time as assistant supervisor, and was regarded highly by both management and workers.

Everything seemed to be all right in Alec's department for several weeks and then output began to fall. At the end of the second week of substandard production the superintendent called Alec into his office for a pep talk.

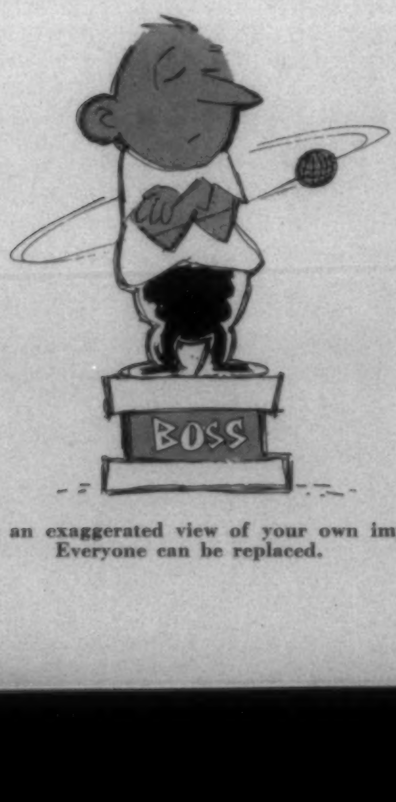
"Seems as if there is a little slump in your department," he began, "but it's nothing to get excited about. We have them now and then and I suppose you are doing something about it."

"I'm going to do something about it if I have to fire everyone in the department!" Alec announced heatedly. "They're all dragging their feet to keep me from making a good showing and I'm getting tired of it!"

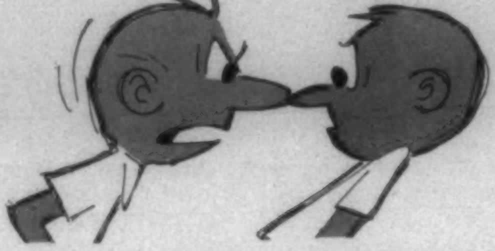
The superintendent was surprised at this outburst because one of Alec's outstanding traits had been his ability to get along well with others.

After the interview was terminated the superintendent checked back over the records. Two long-time employees in Alec's department had quit since he had become supervisor, giving dissatisfaction with the job as the reason. There had also been several complaints about job loads and pay. The superintendent decided that an investigation was in order.

This is what the investigation disclosed:



Don't take an exaggerated view of your own importance. Everyone can be replaced.



Don't be bossy. The honey users are still catching the most flies.

Alec Barnes had done as many had done before him in similar circumstances—instead of being his natural self after his promotion he had tried to change his personality to conform to his idea of what a "boss" should be.

In making this change he had stepped out of character. He had become a stranger to his subordinates and fellow-workers. The more he tried to be the "boss" the less help and co-operation he received. Teamwork ceased and morale sank to a new low—the entire department suffered.

So Alec was called on the carpet and told where the fault lay. But he had become so obsessed with the idea that he was right and that all who disagreed with him were wrong that he was unable to accept the criticism and change.

Management was finally forced to remove him from the job. He refused to accept a lesser job and quit.

Alec's story is a common one. Some people take an exaggerated view of their own importance when they attain a position of authority. Instead of realizing the interdependence of supervisor and employee, they climb upon an imaginary pedestal.

The tragic thing about Alec's story, and of others like him, is that all that was required for a happy ending was for him to be his natural self.

All that is needed to be a successful supervisor is above-average ability, experience and a sincere desire to run the job and get along with both superior and subordinate. Some of the best supervisors are those who minimize their own importance and build up the ego and confidence of the one they supervise.

Most people will do more for a supervisor that they can talk to as a friend and it is only human to resent a supervisor who steps out of character and tries to impress everyone with his importance.

Here are some things for the new supervisor to keep in mind:

1. Act natural—if it comes natural for you to talk, continue to be a talker. But if you are not a good converationalist, don't strain yourself. Just say what you mean and mean what you say.

2. Don't try to be a back-slapper or a hand-shaker unless

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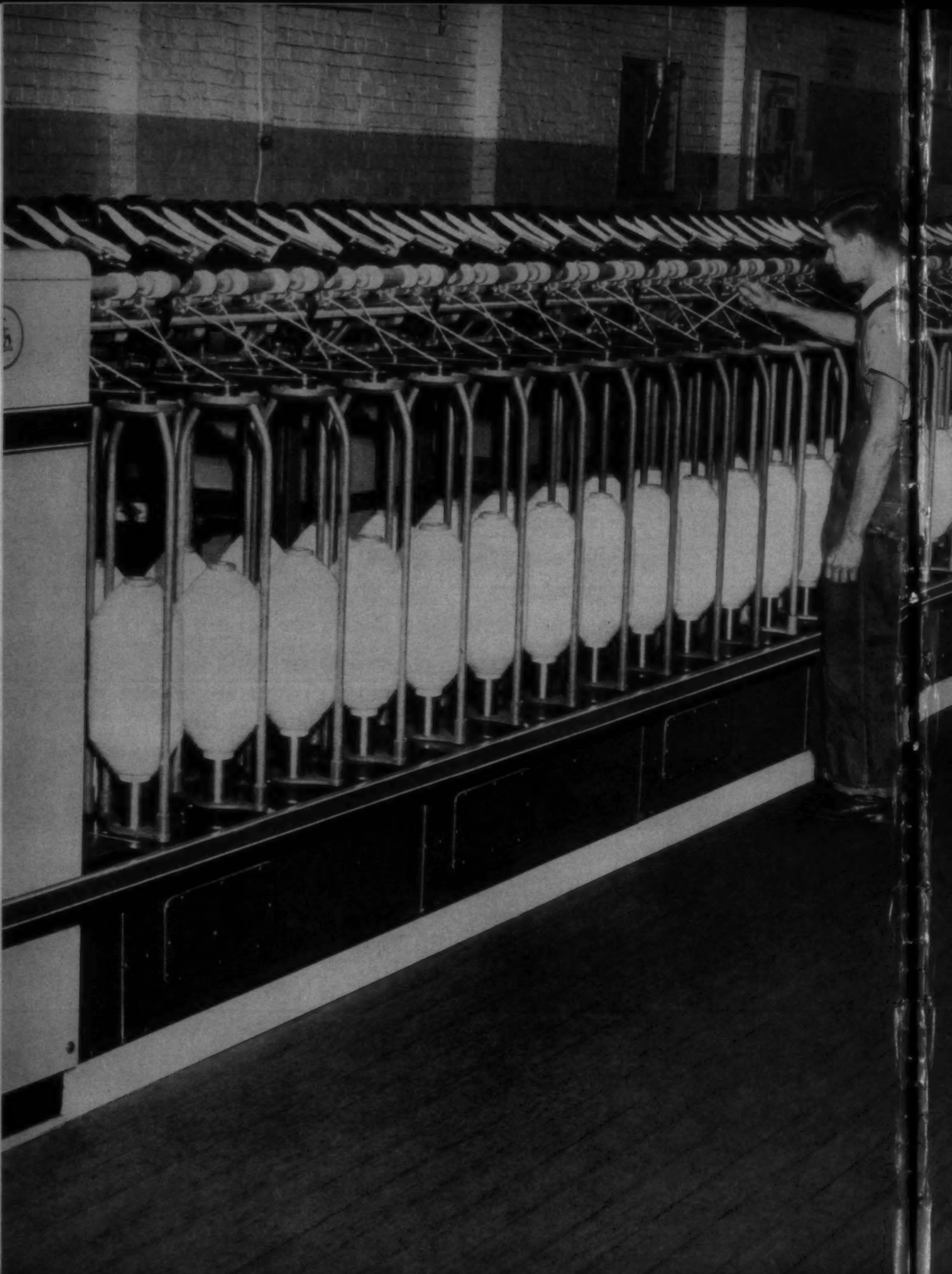

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Traverse is gained by variation in relative speed of spindle components, so Rovematic has no cones or cone belts . . . no reversing shafts. Rovematic also builds the largest packages at the highest speeds yet attainable, without any problem of deflection or excessive wear.

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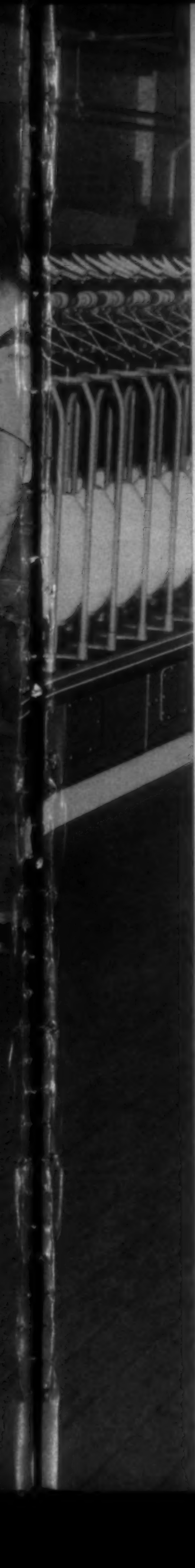

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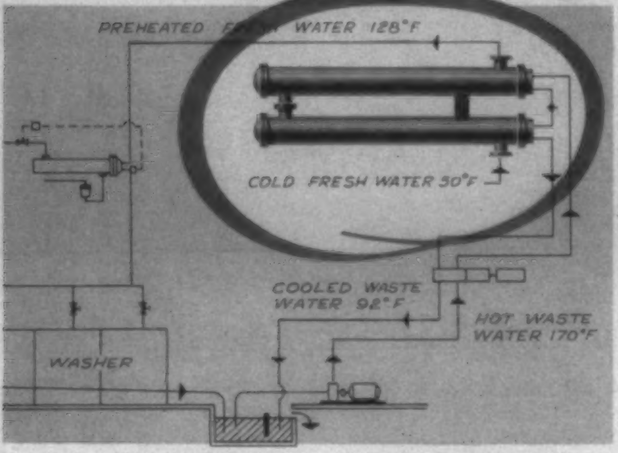

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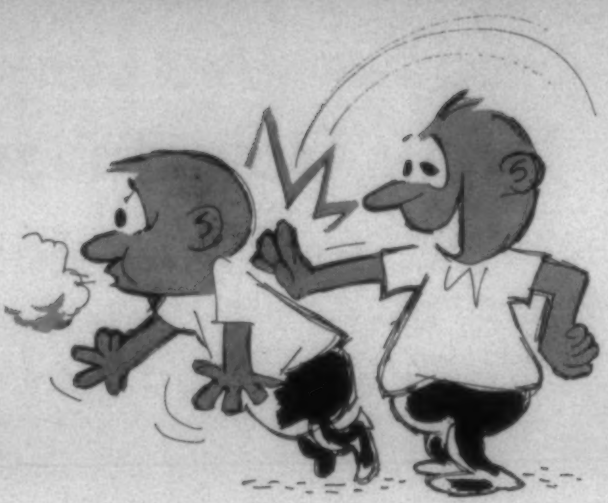

Be yourself. Don't be a back-slapper or hand-shaker unless you are a confirmed extrovert.

you are a confirmed extrovert. A forced hail-fellow-well-met approach is as conspiciously phony as a three dollar bill.

3. Don't lose sight of the fact that you need the help and co-operation of your subordinates more than they need you.

4. Use a common-sense approach to all problems, especially those that affect personnel relations. Talk less and listen more. Remember, you don't learn anything while *you* are talking.

5. Respect the opinions of others, even though you know they are wrong. A little diplomacy will go a long way toward putting your ideas across when they run contrary to the belief of others. Nothing will build resentment quicker or create more opposition than the act of belittling or summarily rejecting the other person's ideas and opinions.

6. Don't oversell yourself. You will be judged by your words and actions on the job. Any attempt on your part to build a false image of yourself will backfire sooner or later.

7. Above all, don't be "bossy." You can get a lot more done by asking than you can by ordering.

Piedmont A.A.T.C.C. Plans First Meeting Of Southern Textile Research Conference

The Southern Textile Research Conference will hold its first meeting at the William Hilton Inn, Hilton Head Island, S. C., October 19-20. The conference is sponsored by the Piedmont Section of the American Association of Textile Chemists & Colorists.

The program will consist of talks on the wet processing of textiles by leading authorities followed by a group discussion. The theme of the conference will be "The Solution of Practical Problems Through the Use of Fundamentals."

The following speakers and topics will be featured: Dr. Emmerick Valko, of Lowell Technological Institute, "The Fundamentals of Dyeing Phenomenona"; Dr. Henry E. Millson of American Cyanamid Co., "Movies of Dyeing Phenomenona with the Microdyeoscope"; and Dr. E. M. Hicks Jr. with Dr. Burt A. Faris of DuPont, "Relation of the Properties of Synthetic Fibers to Wet Processing and End Use." Friday evening will be devoted to a panel discussion on "Problem Solving Through the Application of Fundamentals."

Applications for attendance at the Southern Textile Research Conference may be obtained from Dr. Luther B. Arnold Jr., Vikon Chemical Co., P. O. Box 277, Elon College, N. C. The conference will be limited to 50 conferees.

Small Firms Are Going To Face Bigger And Tougher Competition In The Decade Ahead

An exclusive interview with Senator John Sparkman (D., Ala.), Chairman of the Senate Committee on Small Business, by Larston D. Farrar, noted Washington business writer.

Larston D. Farrar: First, Senator Sparkman, I want to thank you for taking your time from a busy Senate schedule to answer questions which are on the minds of many small businessmen in all areas of the nation. It is most gracious and kind of you to help in this manner.

Senator Sparkman

Senator John J. Sparkman: I'm happy to do it, Larston, for I sincerely believe that the small businessmen of the U. S. already play a vital role in their local, state and Federal Government, and that, with good information, they will be able to play an even more vital role in the future. These are troublous times — particularly in the international field — and it behooves all of us in positions of responsibility to strive to help small businessmen to understand clearly as many phases and facets of our domestic problems as possible. A strong small business community is the backbone of our nation's economic strength.

Mr. Farrar: Speaking of that, Senator, I was told the other day that there now are more small businessmen in the country than there are farmers. There actually now are some 4.5 million small businessmen, and, as we know, man embraces woman, in this case, as is usual.

Senator Sparkman: That is quite true—about the number of small businessmen. We on the Senate Committee on Small Business are well aware of the vitality of the small businesses of the U. S. But we are convinced that we all have our work cut out for us in solving some of the problems facing our small businessmen.

Mr. Farrar: Senator Sparkman, just how would you rank the principal problems facing the nation's small businessmen—as contrasted to the 100 biggest businesses —in the months ahead?

Senator Sparkman: The chief general problem confronting the nation's small businessmen in the 1960's will be to remain competitive with their larger and more powerful rivals. Competition today is not merely keen; it is often savage. Unless small firms find means of strengthening their position in relation to the giant corporations of our economy, before long they may be in danger of passing out of the picture as significant factors in the marketplace.

Part and parcel of this general problem is the question of the burden of income taxes on smaller companies. Unquestionably, the burden of taxes falls more heavily on small concerns than on big companies. One crippling effect of this drain on the financial resources of small firms is that they are unable to generate internally—from earnings—funds for modernization, growth and expansion. This is a serious drawback because with our economy expanding as rapidly as it is, to remain stationary is to invite obsolescence with all of its attendant disadvantages.

Close in importance to some form of tax relief is the problem of guarding small vulnerable concerns from unfair competitive practices and anti-trust violations in general. Mergers that injure competition and tend to promote monopoly are especially harmful to independent merchants and producers.

In addition, ways must be found to increase the small business share of Government contracts, the vast bulk of which are being awarded to a relatively few large corporations and their subsidiaries. The small business potential as suppliers to the Federal Government, both in the military and civilian fields, is far from realized.

Not to be overlooked is the necessity for the average small businessman to increase his management skills. He is daily having to match wits with competitors having highly specialized staffs. Small businessmen must become better versed in the techniques of modern management.

Mr. Farrar: There is tremendous interest, among businessmen in all fields, about what tax reform legislation might come out of Congress. Could you explain—as concisely as possible—the difference between your legislation, which you have introduced during several recent Congresses, on tax reform, and the proposals which President Kennedy has sent to Capitol Hill?

Senator Sparkman: Both President Kennedy's investment tax incentive proposals and my own "plow back" incentive plan, as proposed in my bill, S. 2, have as their aim the providing of modernization and expansion incentives to business firms in the form of tax allowances on a part of funds reinvested in a business.

I feel that my bill would provide somewhat more liberal incentives in that under it deductions would be allowed for inventory and accounts receivable, thus helping wholesalers and retailers to a greater extent than is provided in the President's proposal. Moreover, under S. 2, tax allowances would be permitted for funds invested in used as well as new equipment. Small firms buy the bulk of used equipment.

Mr. Farrar: Do you feel that the President's recommendations on expense accounts will be enacted into law by Congress? Many businessmen—big and little—seem

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to believe that the proposals—such as limiting a businessman to spending $30 a day on business trips—are utterly unrealistic.

Senator Sparkman: It is probable that some curb on excessive expense account deductions will be enacted. What constitutes a fair daily expense allowance for businessmen will have to be determined by the Congressional committees studying this problem.

Mr. Farrar: Would you care to hazard a guess, or a surmise, as to whether or not either one of these proposals—yours or President Kennedy's—will be adopted by both the Senate and the House of Representatives before the end of the 87th Congress?

Senator Sparkman: I am hopeful that some form of incentive tax relief will be enacted by the present Congress. Inasmuch as it is believed that any tax revenues lost by passage of such legislation would be balanced by revenue obtained from the increased business activity generated by these incentives, I can see no insurmountable obstacles to the passage of such legislation. Any tax incentive bill enacted by Congress would probably contain the best features of both my measure and the President's proposal.

Mr. Farrar: Because you seem to hold out some hope for tax relief for businessmen, eventually if not in the next several months, I wonder if you would discuss the chances of excise tax reductions, or abolition on such items as telephone bills, and the others which seem to be quite steep.

Senator Sparkman: Except in a few cases where it can be demonstrated beyond a doubt that excise taxes are an indefensible burden on a business or service, I do not believe that curtailment of this source of revenue will be achieved in the near future. In fact, tax cuts in general, at least for the present, do not seem to be practicable. The possibility of a reduction in expenditures for defense is remote; for one thing. And we cannot keep abreast of the Russians in missilry and space exploration for pennies. It is estimated, for instance, that the cost of putting a man on the moon will approximate $40 billion.

Mr. Farrar: What is your thought about the Administration's proposals on postal rate hikes?

Senator Sparkman: Unquestionably something should be done to reduce our huge annual Post Office Department deficits. I feel that the burden of any increase in postal rates should not fall on any single class of users, but should be shared on some basis by all users of our postal service.

Mr. Farrar: Senator, as I recall, under the previous Administration you seemed quite dissatisfied with the manner in which the U. S. Small Business Admnistration was being administered. I wonder if you have any comments on the manner in which the agency is working these days under the direction of John E. Horne?

Senator Sparkman: In the few months since John E. Horne, my former Administrative Assistant, has been administrator of the Small Business Administration, I have observed a definite quickening of the tempo of that agency. S.B.A. program direction has been infused with new vigor. Already steps have been taken to speed up the mechanics of making loans to small firms, while the interest rates on loans to small firms and local and state development companies in distressed labor areas have been reduced from 5.5% to 4%. The agency's regional offices have been given greater authority to make loans on their own initiative. One result of this activity is that the number of S.B.A. loans to small businesses in April increased 35% and the value of the loans went up 62% over April of a year ago. S.B.A. also seems to have had more success recently in channeling defense contracts to small firms.

If S.B.A.'s budget request for fiscal 1962, in which is included funds to add 220 more employees, is approved by Congress, I am sure we will see a type of agency operation which will be far more responsive to the needs of the small business community than anything we have witnessed in the past.

Mr. Farrar: As chairman of the Senate Committee on Small Business, are you satisfied with the statements Secretary of Defense Robert S. McNamara has made relative to the contracts policy his agency will follow?

Senator Sparkman: All members of the Senate Small Business Committee have been encouraged by the attitude toward small business suppliers evidenced by Secretary of Defense McNamara. Mr. McNamara has left no doubt in the minds of committee members that he intends to follow to the letter President Kennedy's instructions that military procurement officials take whatever steps are necessary to increase the share of small firms in defense contracts by 10%.

The Defense Secretary's knowledge of the capabilities of small business was shown when he testified before our Committee that: "I am well aware of the advantages which a competent small business can offer its customers. A good, small firm can provide flexible and responsive engineering, low administrative costs, and first-rate products."

If the 10% goal is reached, it will be worth $344 million in additional defense business to small firms in the coming fiscal year.

Mr. Farrar: Do you feel that small business can play a more vital role in assuaging the unemployment problem?

Senator Sparkman: Look at it this way. To reduce unemployment to 4% of the work force by mid-1962, we will have to create between four and five million new jobs. Only business can do this. Now, if on the average the nation's 4.5 million small businesses could add just one worker, the result would be 4.5 million new jobs—enough to fill the gap.

In this connection, S. 2, my "plow back" incentive bill, would undoubtedly help to generate employment opportunities growing out of the new capital expenditures business firms would take if they were encouraged to do so by tax incentives.

Mr. Farrar: Do you believe that small business problems get as much attention in the public media—the newspapers and over radio and television programs—as these problems deserve?

Senator Sparkman: I do not. Generally speaking, the nation's mass communications media—newspapers, periodicals, radio and television—tend to underplay news pertaining to the problems of small and independent enterprises. These major channels of communications do

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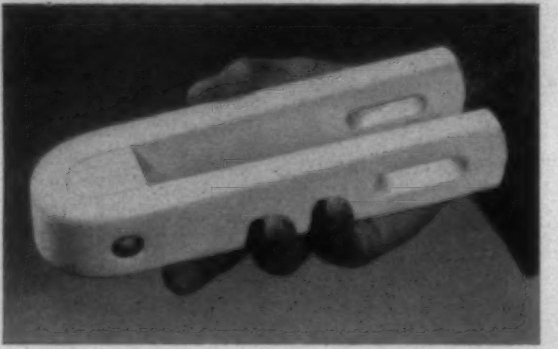

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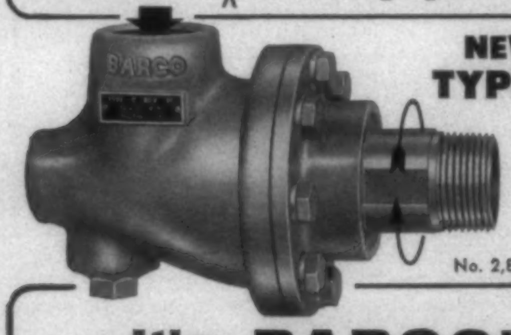

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not yet seem to realize that when we speak of small business in the aggregate, and not just a single corner retail shop, we are in effect calling attention to weaknesses in the structure of our entire free enterprise system. You cannot blink at the fact that small firms comprise more than 95% of our business population.

Mr. Farrar: Are you aware of the Small Business Administration survey which shows that no more than 10% of the small businessmen in the nation have even heard of the agency's management training program, which is carried on in connection with principal educational institutions, much less are famliar with all of the agency's other programs?

Senator Sparkman: Our committee constantly has stressed the necessity of full publicizing of the Small Business Administration's programs. At the same time, however, S.B.A. has been in existence since 1953 and it must be an unusually uninformed businessman who, being in need of help, is not by now aware that there is a Government agency available to counsel with him and render various forms of assistance. While many businessmen may not know in detail of various S.B.A. programs, I suspect that the percentage of those believed not to know of the agency's existence is probably overstated.

Mr. Farrar: It has been said that the Kennedy Administration is "the small businessman's administration," as contrasted to "the businessman's administration" of President Eisenhower. What do you think of these characterizations?

Senator Sparkman: I think they are accurate.

Mr. Farrar: Is it your feeling that small business has been gaining, or losing, ground in the U. S. during the past eight years? If you feel that small business has lost ground in the past, do you feel that the legislative program of the new Administration will develop a more favorable climate for small business to flourish?

Senator Sparkman: In relation to the huge strides made by very large corporations, small business has lost ground. The failure rate of small business is the highest in more than 25 years. Judging from the recent increase in loan applications made to the S.B.A., it must be increasingly difficult for small firms to obtain credit from normal private sources of credit. Between 1951 and 1960, stockholders' equity in small manufacturing companies declined; such equity in larger manufacturing concerns increased in that time by 75%. From 1959 to 1960, the sales of smaller producing plants decreased while the sales of larger manufacturing corporations increased.

I believe that the present Administration's legislative program for small business, if adopted, will make it possible for smaller companies to regain some of the ground they lost in the 1953-1960 period.

Mr. Farrar: Retailing represents, numerically, the greatest segment of our small business community. Do you feel that retailing will make significant sales gains during the remainder of this year, as a result of policies now being pushed by the White House?

Senator Sparkman: Much depends on the rate of general business activity with an increase in payrolls and consequently larger amounts of disposable income held by consumers. To the extent that President Kennedy's anti-recession program is successful, I feel that there is a good possibility that retail sales will pick up between now and the end of the year.

Mr. Farrar: Service industries are growing in importance in the small business community. Do you feel that business will be better in the service industries in the coming months than in the same months last year?

Senator Sparkman: Yes. Inasmuch as the service trades are also dependent on consumer spending, I feel that they will share with retailing the benefits accruing from higher levels of production and consumption.

Fiber Society's Fall Meeting Is Planned For October 11-13

The Fall meeting of the Fiber Society has been set for October 11-13 at the U. S. Hotel Thayer, West Point, N. Y. The meeting will feature the presentation of eight technical papers and the election of officers.

Subjects and speakers for the Thursday session are: "Effect of Fiber Tension in the Resin Treatment of Cottons," Dr. Ludwig Rosenfeld, Textile Research Institute; "Crosslinking of Cellulose with Polyfunctional Sulfones Under Anhydrous Conditions," Dr. Giuliana C. Tesoro, J. P. Stevens & Co., central research laboratory, Garfield, N. J.; "High Speed Test Behavior of Textile Structures," Drs. S. K. Batra, J. G. Krizik and Stanley Backer, Slater Memorial Laboratory, Massachusetts Institute of Technology; "High Speed Tensile Testing of Single Fibers," Drs. Henry M. Morgan and Robert J. Coskren, Fabric Research Laboratories, Dedham, Mass., and Sheldon Sprague and Robert Singleton, Celanese Corp. of America, Summit, N. J.

The Friday session will include the following papers: "Equilibrium Absorption Studies of Cationic Dyes on Acrylic Polymers and Fibers," Drs. C. A. Bowers and T. H. Guion, The Chemstrand Corp., Decatur, Ala.; "Multivariable Investigation of the Spinning of a Mixed Polymer System," Dr. C. K. Morbey, Textile Research Institute, and Prof. J. C. Whitwell, School of Engineering, Princeton University; "The Influence of Wet-Spinning Variables on the Physical Properties of a Modacrylic Fiber," Drs. S. P. Hersh, T. D. Higgins and H. W. Krause, research department of Union Carbide Chemicals Co., South Charleston, W. Va.; and "The Influence of Coagulation Variables on the Structure and Physical Properties of an Experimental Acrylic Fiber," Dr. John P. Knudsen, Chemstrand Research Center, Durham, N. C.

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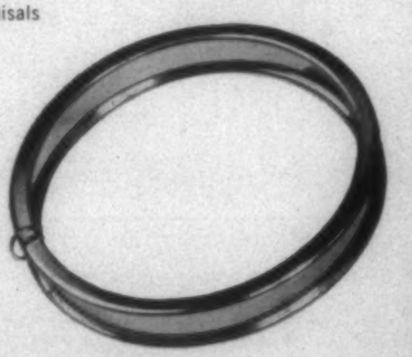

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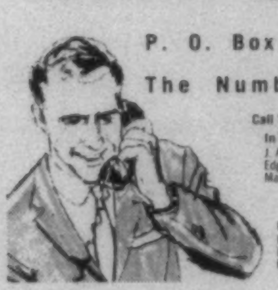

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Are You Wasting Your Electrical Dollar?

DON'T RUN YOUR POWER COSTS UP EITHER BY USING EQUIPMENT IMPROPERLY OR USING IMPROPER EQUIPMENT

By ERNEST W. FAIR

ONE of the brightest areas for reduction of overhead operating costs in any textile mill is in savings on electrical power costs. In even the best organization there is usually an opportunity to make a small worthwhile saving, and rare indeed is the company wherein no such situation exists.

Many steps can be taken. Some involve no expense whatsoever. In a few the initial cost may be sizeable but overall savings invariably repay those costs. The following are suggested steps you might take to reduce your company's electrical energy costs.

Rearrangement Of Motor Drives

Rearrangement of motor drives in many plants can secure savings. Most equipment drives are originally installed with motors of the horsepower and speed specified by the manufacturer of the driven device or machine. Often a 10 h.p. motor was connected to a 5 h.p. load just to be on the safe side. In some cases a 10 h.p. motor might even have been connected up with no tests made to verify proper operating conditions. Of course the motor continued to run, and may be running yet, but it represents a terrific waste of electrical energy.

In many instances plant operating conditions have been changed and no remodeling has been undertaken to compensate for such changes. Every motor drive in the company operation should be checked periodically to make certain there is no overload or underload. Every such case represents electrical energy waste. Motors are always most efficient at full load; fairly efficient at three-quarter load; and very poor at quarter-load.

After tests have been made it is often possible to change motors around to provide definite savings on the power bill without purchase of a single new motor.

Junk The Antiques

Get rid of ancient motors. Human nature may cause you to point with pride to the 1909 motor still turning over and doing a job but it represents a terrific waste of electrical power. Tests have shown that equipment that old, operating at one-quarter load, can lose as much as 41% of the power input. The reason is not one of ageing so much as in the design and construction improvements which have been made over the years.

A few simple tests on any such installation by the power company engineers or a private expert will reveal surprising figures with respect to electrical energy input and the power output achieved by worn-out motors. Cost of replacement becomes a very minor item when compared with the money wasted every day of the year through failure to modernize.

Regrouping of operating units offers a third method of reducing power costs. If no check-up has been made on power efficiencies for a considerable length of time there is almost certain to be a number of situations where this step can offer definite savings.

This is particularly true where a single motor is used to drive several different pieces of equipment. It exists most frequently with small machines and pieces of equipment for there is where additions to the single power source have been made from time to time without any check on whether or not such additions have altered the efficient operation of the main power source.

This same procedure applies to changing electric motors from one point of operation to another. In some installations only two or three changes need be made to secure very worthwhile savings.

Rearranging Of Transformers

Rearrangement or regrouping of transformers is another advisable procedure to take and particularly where no specific check has been made on this phase of the installation in recent years. At the time transformer arrangements or regroupings were set up they undoubtedly delivered maximum efficiency but again plant changes in the months and years which followed called for delivery of entirely different output from them.

In some cases, where there has been considerable additions without any compensating step-up in transformer capacities, the savings will be surprising. Here again the cost of installation of larger units will be more than offset by resultant power savings.

Proper Voltage

Maintenance of proper voltage — never over and never under — is another prerequisite to securing maximum return from the power bill. Even in operations where it is thought no change could be possible, a check will sometimes reveal the need for adjustments on regulatory equipment or even installation of more modern units to assure constant delivery of the proper voltage.

Where power company check-ups are not made frequently it is also often advisable to request that this be done.

Modernize Wiring

Modernization of wiring can be a very worthwhile step toward increased power savings. Again this is particularly advisable where a number of additions have been made to existing circuits. Overloaded circuits are always great power wasters. So also are long lines extending from the power source. Losses over extremely long lines, where no step-up facilities are employed, can be as great as 50%.

Where no re-wiring has been done for many years, it's a good idea to consider complete modernization. Great improvements in conductivity and insulation of electrical power wires have been made over the years. Also, many such lines were installed in the past to serve very minor loads; replacement with heavier wire can alone make a difference.

Loose connections anywhere are wasters of electric power. A periodic check-up should be made not only of circuits themselves but at the power source and on every single installation. Loose connections, in addition to being power wasters, are also very definitely hazardous.

Reduction of machine idling time is another possibility to check into. A running machine that is performing no useful function is very definitely a power waster. Even where this occurs for only a few moments at a time the sum total over a year's period can be very sizeable.

Fewer Starts-Stops

More consistent operation also offers another opportunity for power savings. The unit which is frequently started and stopped during the day is another source of power waste simply because of the amount of energy required to break inertia. It is often better policy to permit a machine to idle if the idling period lasts but a few moments. On the other hand should the idling period last from 15 to 30 minutes, you'd be better off to stop and start.

Be sure power company meters are checked at least once a year. They are delicate enough to get out of adjustment and register improperly. When meter accuracy is altered, the result can be power dollars spent at the meter before they ever reach installations.

Usually power company technicians check meters periodically but under severe weather conditions it may pay you to see that they are checked more often than on the regular schedule. Also, in cases where meters have been jarred or damaged by something striking them, chances are that damage will have been done even though none is apparent.

Maximum Lubrication

Maximum lubrication attention to everything is also a requirement in obtaining efficiency in use of electrical power. Dry shafts and bearings whether on motors or on the driven machines require more power to turn than those properly lubricated. That always means we are wasting power dollars simply because we are using more than we would need if every such unit was *always* properly lubricated.

Planned Usage

Better planning in motor usage can also secure power savings. Employment of a large number of small motors, for example, in an area of continuous operation of all units, may be extremely wasteful if they can be replaced by a large motor delivering power to the entire group. So also will be the use of wrong types and kinds of motors on different pieces of equipment. Too frequently an emergency situation calls for a replacement to be made which does not meet such specifications. Since everything keeps running no subsequent correction to proper motor installation is made.

The foregoing, while not all-inclusive by any means, represent major opportunities for cutting electrical energy costs in any knitting mill. Their application will go a long way in assuring you maximum power at minimum costs.

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Ceasar Cone To Address Fall Meeting Of Textile Quality Control Association

The Fall meeting of the Textile Quality Control Association has been set for October 5-6 at the Sedgefield Inn, Greensboro, N. C. Ceasar Cone, president of Cone Mills Corp., Greensboro, will address the group dinner on Thursday, October 5.

Presentations to be made and their authors are as follows: "Comparison of Metered and Conventional Raw Stock Feeding," W. T. Waters, Auburn University; "Quality Control in Woven Stretch Fabrics," B. L. Hathorne, consultant, Greensboro; "Quality Control in the Finishing Plant," R. L. Wilson, The Kendall Co., Charlotte, N. C.; "Before and After Evenness Test," G. H. Bass, Swift Mfg. Co., Columbus, Ga.; "Practical Application of Statistics in Quality Control," M. W. Walker, M. Lowenstein & Son; and "Electronic Data Processing in Quality Control," Dick Larkins, International Business Machines.

Representatives of most of the major textile machinery manufacturers will participate in a group discussion of the newest developments in machinery and the quality control aspects involved.

Technical Program Announced For The Annual Meeting Of The A.A.T.C.C.

The American Association of Textile Chemists & Colorists has announced plans for its 1961 convention which will meet September 27-29 at the Statler-Hilton Hotel in Buffalo, N. Y.

The opening presentation of the convention will be a discussion of "Hazards of Static Electricity," by Hugh D. Graham, mining, health and safety engineer, U. S. Department of the Interior. The first technical session will begin Wednesday afternoon and will include the following presentations: "A Carbamate Finish for Wrinkle-Resistant and Wash-And-Wear Cottons," Richard L. Arceneaux, J. G. Frick Jr., J. David Reid, Gloria A. Gautreaux, Southern Regional Research Laboratory, U.S.D.A.; "Radiation Induced Graft Copolymerization of Styrene and Nylon," Sharda Das Gupta, J. T. Slobodian and D. L. Rowat, Atomic Energy of Canada; "Improvement of Lightfastness of Dyes on Synthetic Fibers by Ultra-Violet Absorbers," Dr. A. F. Strobel, General Aniline & Film Corp.; "Wool Fabric Stabilization by Interfacial Polymerization II. Development Studies of Processing Variables," W. Fong, R. E. Whitfield, L. A. Miller and A. H. Brown, Western Regional Research Laboratory, U.S.D.A.

The second technical session is scheduled for Thursday at 9:30 a. m. and will feature: "Paths to Great Discoveries in Dyestuff Chemistry," Dr. Walter Jenny, Ciba Ltd., Basle, Switzerland; "Water Conservation and Pollution Abatement," R. Hobart Souther, research consultant; "Optimum Dyeing and Finishing of Polyester Blended Fabrics," Ralph Lacy, D. Salvin, Werner Schoeneberg, Celanese Corp. of America; "Economical Utilization of Caustic Soda in Cotton Bleacheries," W. R. Steele, Allied Chemical Corp.

The concluding technical session will be held Friday afternoon at 1:30. Presentations will include: "Survey of the Australian Commonwealth Scientific and Industrial Research Organization," James McPhee, Australian Government Senior Research Fellow; "New Developments and Experience in Continuous Dyeing of Wool-Cibaphasol Process," Dr. Karl Menzi, Ciba Ltd., Basle, Switzerland; "Tariffs," C. K. Black, The Du Pont Co., Wilmington, Del.; "Fluorescent Whitening Agents in Wash-And-Wear Finishing of Cotton," R. M.

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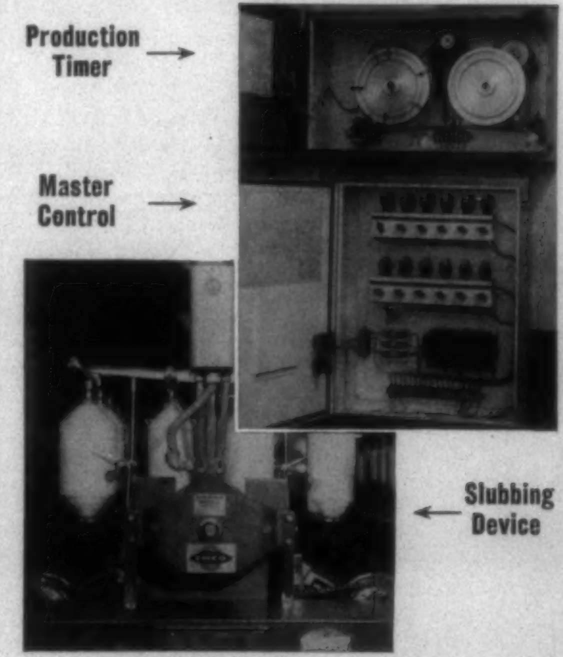

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Woolen And Worsted Fiber Consumption In June Shows A 7% Drop From May

The weekly average rate of fiber consumption on the woolen and worsted systems in June was 7% below the May rate and 2% below the comparable month of 1960. These figures exclude the production of man-made fiber top from tow without combing.

The weekly average raw wool consumption in June was 7,882 thousand pounds (scoured basis) or 6% below the May level and 4% above the June 1960 rate.

Consumption of apparel class wool was 5% below the May rate but 3% above June 1960.

The rate of consumption of carpet class wool decreased 8% from the preceding month but was 5% above the comparable period of last year.

Consumption of fibers other than raw wool averaged 5,000 thousand pounds per week. This was 10% below the rate of consumption for the previous month and 9% below the June 1960 rate.

Fibers Consumed In Woolen Spinning And Worsted Combing — June 1961

(Thousands of Pounds—Scoured Basis for Greasy Wools)

Classification	June 1961	May 1961	June 1960
	WEEKLY	AVERAGE	
All Fibers, Total	12,882	13,890	13,128
Raw wool	7,882	8,360	7,607
Apparel class	5,441	5,700	5,280
Woolen system	2,251	2,528	2,436
Worsted system	3,190	3,172	2,844
Carpet class	2,441	2,660	2,327
Noils, reprocessed and reused wool, and other animal fibers	2,857	3,169	3,242
Man-made fibers	1,865	1,996	1,964
All other fibers	278	365	315

Total fiber consumption on woolen and worsted systems during the year 1960 amounted to 680 million pounds, 8% below the 1959 level of 735 million pounds. Consumption of raw wool (scoured basis) was 407 million pounds in 1960, a decrease of 6% compared to 1959. The 1960 consumption of apparel class raw wool amounted to 244 million pounds compared to 263 million pounds in 1959, a decrease of 7%. Carpet class wool consumption at 163 million pounds decreased 3% compared to 1959.

Fibers Consumed Annually In Woolen Spinning And Worsted Combing — 1958-1960

(Thousands of Pounds—Scoured Basis for Greasy Wools)

Classification	1960 (52 weeks)	1959 (52 weeks)	1958 (53 weeks)
All Fibers, Total	679,962	734,930	615,054
Raw wool	406,927	531,220	331,087
Apparel class	244,271	262,808	212,012
Woolen system	111,501	120,356	101,247
60s and finer	44,363	44,017	35,259
50s up to 60s	53,518	59,386	52,511
48s and coarser	13,620	16,953	13,477
Worsted system	132,770	142,452	110,765
60s and finer	73,283	88,130	70,293
50s up to 60s	53,016	47,779	34,169
48s and coarser	6,471	6,543	6,303
Carpet class	162,656	168,412	119,075
Noils, reprocessed and reused wool, and other animal fibers	154,873	173,550	156,586
Man-made fibers	101,922	111,270	107,132
All other fibers	16,240	18,899	20,249

Textile Electrical Conference Planned For Charlotte, Oct. 5-6

The American Institute of Electrical Engineers will hold its annual conference on electrical applications for the textile industry October 5-6 in the Barringer Hotel, Charlotte, N. C. Presentations and authors are as follows: "Dollars that Management Can Save by an Engineer Value Analysis," Robert Bunker, Klopman Mills, Asheboro, N. C.; "Logical Approach to Automation in the Textile Industry," C. H. Asbill, North Carolina State College School of Textiles, Raleigh; "Methods and Equipment Used in Locating Grounds," J. R. Torrence, Dan River Mills, Danville, Va.; "Lighting as a Profitable Investment," John L. Ponzer, chairman, Tar Heel Illuminating Sections, Southern Pines, N. C.; "Increase Pin Drafters Productivity with Closed Loop Electric Diffing Control," David Josza, Warner & Swasey Co., Cleveland, Ohio; "Need for Research and New Innovations in the Textile Plant," T. C. Hance, Institute of Textile Technology, Charlottesville, Va.; "How an Effective Survey to Determine Hours Devoted to Productivity Proved Profitable," William Hampton, Cutler Hammer Co., Milwaukee, Wisc.; and "Proposed Down Time Study from Electrical Causes in the Textile Industry," Howard E. Strock, Associated Engineering Co., Matthews, N. C.

In addition, there will be a new product symposium as follows: Guardister-Thermister Motor Protection — W. S. Hines, Westinghouse Electric Corp., Atlanta, Ga.; Thermo-Tector and Stato-trol or Silicone Rectifier Controlled Drives —C. D. Beck, General Electric Co., Schenectady, N. Y.; and Overcurrent Tripping Device for Low Voltage Breakers—R. L. Winship, Allis-Chalmers Co., Boston, Mass.

Gov. Sanford To Be Featured Speaker At N. C. Textile Manufacturers Meeting

The North Carolina Textile Manufacturers Association has announced plans for its annual meeting, October 5-6 at Pinehurst, N. C. Speakers for the meeting will include Governor Terry Sanford of North Carolina, Robert C. Jackson, executive vice-president of the American Cotton Manufacturers Association; Whiteford S. Blakeney, Charlotte attorney; and Donald R. Jonas, Johnston Mills Co., Charlotte.

If precedent is followed in the election of officers, D. R. LaFar Jr., president of LaFar Mills, Gastonia, will succeed Jonas as president with Hal W. Little, president of Little Cotton Mfg. Co., Wadesboro, N. C., moving up from second to first vice-president.

The annual banquet and presentation of new officers will be held Friday evening. Some 400 textile executives and their guests are expected to attend.

Textile Processing Symposium Planned For Sept. 14-15 By American Gas Assn.

The 5th Annual Textile Processing Symposium of the American Gas Association will be held on September 14-15 at the Clemson House, Clemson, S. C. The theme of the symposium will be "Textile Process and Product Improvement—Cutting Costs With Natural Gas."

The program will start with a luncheon at noon on Thursday and finish at noon on Friday. The reason for this new arrangement is to allow sufficient travel time in the morning before the meeting and in the afternoon after the meeting so that those attending would spend a minimum of time away from the job.

Joining with the association are manufacturers of gas equipment that have applications in the textile field.

The program will include: "Natural Gas for Turbines as a Prime Mover for Electrical Generation, Heating and Cooling," by J. L. Harkenrider, AiResearch Mfg. Co., Phoenix, Ariz.; "Improving Drying Performance with Proper Relationship of Heat, Air-Quality and Air Movement," by D. E. Newman, Bryant Mfg. Co., division of the Carrier Corp., Indianapolis, Ind.; "The Need for Efficient Techniques and Process" (author not announced); "Research at the College and Industry Level," by T. D. Efland, head of the Textile Research Department, Clemson; "Temperature Measurement and Control," Edwin S. Mack, Asheville, N. C.; and "Hot Water At The Point of Use," (author not announced).

Textile Mill Failures Up Sharply In The First Six Months Of 1961

Failures of textile mill products manufacturers in the first six months of '61 were up sharply from the comparable period of 1960. Some 64 firms with liabilities of $9.3 million failed in the first half of '61 as compared with 44 firms with liabilities of $3.9 million in the first half of '60.

The Geneva Agreement

(Continued from Page 38)

The participating countries desire to deal with these problems in such a way as to provide growing opportunities for exports of these products provided that the development of this trade proceeds in a reasonable and orderly manner so as to avoid disruptive effects in individual markets and on individual lines of production.

I. Short-Term Arrangement

Pending a long-term solution the participating countries agree to deal with immediate problems relating to cotton textiles through international action designed, at the same time:

(1) to significantly increase access to markets where imports are at present subject to restriction;

(2) to maintain orderly access to markets where restrictions are not at present maintained; and

(3) to secure from exporting countries, where necessary, a measure of restraint in their export policy so as to avoid disruptive effects in import markets.

Accordingly the participating countries agree to adopt the following short-term arrangement for the 12-month period beginning October 1, 1961.

(A) A participating country, if unrestricted imports of cotton textiles are causing or threatening to cause disruption of its domestic market, may request any participating country to restrain, at a specified level not lower than the level prevailing for the 12-month period ending June 30, 1961, its total exports of any category (*see Appendix B*) of cotton textiles causing or threatening to cause such disruption, and failing agreement within 30 days, the requesting country may decline to accept imports at a level higher than the specified level.* In critical circumstances, action may be taken provisionally by either country involved while the request is under discussion. Nothing in this arrangement shall prevent the negotiation of mutually acceptable bilateral arrangements on other terms.

It is intended by the participating countries that this procedure will be used sparingly, with full regard for their agreed objective of attaining and safeguarding maximum freedom of trade, and only to avoid disruption of domestic industry resulting from an abnormal increase in imports.

(B) A country requested to restrain its exports to a specified level may exceed the specified level for any category by 5% provided that its total exports to the requesting country of the categories of products subject to restraint do not exceed the aggregate for all the categories.

(C) If a requesting country determines that a shift in the pattern of imports within any category is producing undue concentration of imports of any particular item and that such concentration is causing or threatening disruption, the requesting country may, under the procedure set forth in paragraph A above, request the producing country to restrain its total exports of the said item during the 12 months beginning October 1, 1961, to a prescribed level not lower than that which prevailed during the year ending June 30, 1961.

(D) Participants agree to take action to prevent circumvention or frustration of this short-term arrangement by non-participants, or by trans-shipment, or by substitution of directly competitive textiles. In particular, if the purposes of this arrangement are being frustrated or are in danger of being frustrated through the substitution of directly competitive textiles, the provisions of para-

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graph A above shall apply to such goods, to the extent necessary to prevent such frustration.

(E) Participating countries presently maintaining quantitative restrictions on cotton textile imports shall, as from January 1, 1962, significantly increase access to their markets by countries the exports from which are now restricted. A specific statement of the new access will be forthcoming.

(F) This short-term arrangement shall be valid for a period of 12 months, beginning on October 1, 1961; however, the provisions of section E above shall enter into force not later than January 1, 1962.

(G) In accordance with G.A.T.T. provisions for joint consultations, the parties to this arrangement shall meet as necessary to consider any problems arising out of the application of this agreement. Such conditions could, in particular, take place in the event that a country, the exports of which are under restraint as a result of action taken under paragraph A above, considers that experience shows that the level of restraint is inequitable.

II. Long-Term Arrangement

(A) Participating countries agree to create a Provisional Cotton Textile Committee and to request the Contracting Parties to confirm the establishment of the committee at the 19th session.

The committee shall: (1) undertake work looking toward a long-term solution to the problems in the field of cotton textiles on the basis of the guiding principles set out in the Preamble to this Agreement.

(2) Collect all useful data for this purpose.

(3) At an early date, not later than April 30, 1962, make recommendations for such long-term solution.

(B) The discussions and consultations to be undertaken by the committee on the long-term problem shall be of the kind provided for by the Market Disruption Committee at the 17th session of the Contracting Parties. The committee shall, as appropriate, from time to time report to this committee and to Committee III of the Expansion of Trade Programme on progress made and on its findings.

(C) The Provisional Cotton Textile Committee referred to in this article shall meet on October 9, 1961, to initiate consideration for this long-term problem.

Appendix A
Extract from the Contracting Parties' Decision of November 19, 1960

"These situations (market disruption) generally contain the following elements in combination:

(i) a sharp and substantial increase or potential increase of imports of particular products from particular sources;

(ii) these products are offered at prices which are substantially below those prevailing for similar goods of comparable quality in the market of the importing country;

(iii) there is serious damage to domestic producers or threat thereof;

(iv) the price differentials referred to in paragraph (ii) above do not arise from governmental intervention in the fixing or formation of prices or from dumping practices.

In some situations other elements are also present and the enumeration above is not, therefore, intended as an exhaustive definition of market disruption."

Appendix B
Cotton Textile Categories

List of Categories	**Unit**
(1) Cotton yarn, carded, singles, not ornamented, etc.	Pound
(2) Cotton yarn, plied, carded, not ornamented, etc.	"
(3) Cotton yarn, singles, combed, not ornamented, etc.	"
(4) Cotton yarn, plied, combed, not ornamented, etc.	"
(5) Ginghams, carded yarn	Sq. Yds.
(6) Ginghams, combed yarn	" "
(7) Velveteens	" "
(8) Corduroy	" "
(9) Sheeting, carded yarn	" "
(10) Sheeting, combed yarn	" "
(11) Lawns, carded yarn	" "
(12) Lawns, combed yarn	" "
(13) Voiles, carded yarn	" "
(14) Voiles, combed yarn	" "
(15) Poplin and broadcloth, carded yarn	" "
(16) Poplin and broadcloth, combed yarn	" "

(17)	Typewriter ribbon cloth	" "
(18)	Print cloth type shirting, 80x80 type, carded yarn	" "
(19)	Print cloth type shirting, other than 80x80 type, carded yarn	" "
(20)	Shirting, carded yarn	" "
(21)	Shirting, combed yarn	" "
(22)	Twill and sateen, carded yarn	" "
(23)	Twill and sateen, combed yarn	" "
(24)	Yarn-dyed fabrics, except ginghams, carded yarn	" "
(25)	Yarn-dyed fabrics, except ginghams, combed yarn	" "
(26)	Fabrics, n. e. s., carded yarn	" "
(27)	Fabrics, n. e. s., combed yarn	" "
(28)	Pillowcases, plain, carded yarn	Numbers
(29)	Pillowcases, plain, combed yarn	"
(30)	Dishtowels	"
(31)	Towels, other than dish towels	"
(32)	Handkerchiefs	Dozen
(33)	Table damasks and manufactures of	Pound
(34)	Sheets, carded yarn	Numbers
(35)	Sheets, combed yarn	"
(36)	Bedspreads	"
(37)	Braided and woven elastics	Pound
(38)	Fishing nets	"
(39)	Gloves and mittens	Dozen
(40)	Hose and half-hose	Doz. Prs.

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*In Canada, there is no legislation whereby imports may be limited in a precise quantitative manner as envisaged in this paragraph. The provision available for limiting imports in order to avoid injury or a threat of injury to a domestic industry is contained in Section 40 A (7) (c) of the Customs Act which authorizes the application of special values for duty purposes. These special values cannot be used to achieve a precise level of imports. Accordingly, the participating countries recognize that, should Canada find it necessary to take action to limit imports pursuant to this arrangement, it would not be in a position to insure that imports would not fall below the minimum level as defined in this paragraph.

Give Mills The Cotton They Need

(Continued from Page 44)

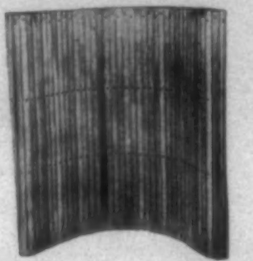
all runs bads and trouble is the big word.

Pre-blending can do a magnificent job of evening out grades, degrees of fineness, maturity, fiber strength, more uniform blending of bales having excessive amounts of short fibers and covering up to some degree the effect of overheating and overginning. It allows a mill to tolerate a higher degree of fiber non-uniformity than would otherwise be possible. Much thought now is being given to maintaining the average level of the fiber properties presented to the mix on a day-to-day, week-to-week, and month-to-month basis.

Mills have tried various means of improving uniformity, such as purchasing their cotton entirely from one area on the strength of early reports. Later they discovered that what started out to be exactly what they wanted turned out to be present only in one part of the season. Other mills have found that it is not always economically possible to sort out the fiber components in each bale. There also may be properties about which little is known; these may mean the difference between good and bad running. In the long run, cotton presented to the mill must have identical characteristics every day. Otherwise, operational standards set up for one blend will collapse when presented with a lesser quality. For this reason I am definitely for a well blended, pre-blended cotton.

The past year we have had many complaints from finishers concerning dyed threads in the finished goods that will not bleach out. We use no dyed cotton in our mill and therefore cannot be guilty of letting something that isn't there get into the opening room mix and be carried through the mill. By keeping a close check on our baled opening room cotton, we frequently find colored threads mixed in the bale. To keep down tar spots we curry the sides and ends of every bale we run, so the thread can only come from the inside. We do find them. How they get there, except at a gin, is a big mystery. So, dyed woven goods should be kept out of the way around gins.

ALL TYPES OF PICKER APRONS, BEATER LAGS—



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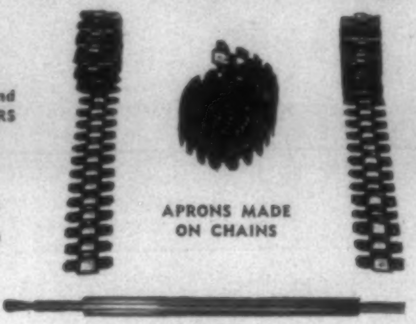

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PERSONAL NEWS

Roberts

Frederick W. Roberts has been elected vice-president, research and development, Whitin Machine Works, Whitinsville, Mass. Roberts, who has been vice-president, engineering and research at the Dictaphone Corp., Bridgeport, Conn., fills a vacancy created by the resignation of E. Kent Swift Jr. Roberts received his Engineering Degree at Harvard in 1933. He became associated with the Dictaphone Corp. in 1941 as a project engineer and successively served in a number of important engineering capacities.

Norman McClellan has joined Riegel Textile Corp., Trion, Ga., as a technical supervisor. In his newly acquired position, McClellan will be working in the plants with all overseers and department heads. Prior to joining Riegel, he was with Callaway Mills Co., LaGrange, Ga., in the post of overseer of the yarn department.

Jack H. Gunnells has been named Southern manager for Bigelow-Sanford Inc., Landrum, S. C. He will be responsible for personnel administration at the firm plants in Landrum, Calhoun Falls and Belton, S. C., and also Summerville, Ga. Gunnells formerly was manager of employee relations at Fieldcrest Mills, Spray, N. C.

Russell A. Graham, vice-president and director of Saco-Lowell Shops, has been named executive vice-president and general manager of the company's textile machinery division. Graham will make his headquarters in Greenville, S. C. He is also vice-president for enginering and a director of Maremont Corp. of Chicago, Saco-Lowell's parent firm. Graham succeeds Royden Walters, who is retiring as executive vice-president. Walters, who joined the company in 1958, headed its plants at Sanford, N. C., and at Easley and Greenville, S. C. Prior to joining Saco-Lowell he was treasurer and secretary-controller of Borg Warner's Long Mfg. Division, Detroit, Mich. He will return to Detroit.

Graham

Walters

Richard W. Munroe, formerly with Saco-Lowell Shops, Easley, S. C., has joined Gambrill & Melville Mills of Bessemer City, N. C., as assistant superintendent. He is a graduate of N. C. State College in textile engineering. For the past ten years, he has been a textile designer and researcher for The Curlator Corp., Saco-Lowell Shops and James Hunter Machine Co.

Madden

William Lewis Madden has joined the Louis P. Batson Co., Greenville, S. C., as a sales representative. A graduate of the 1956 class of Clemson College with a B. S. degree in textile manufacturing, he will cover a portion of South Carolina and Northeastern Georgia for the company. He was formerly with the Swift Mfg. Co., Columbus, Ga., and Woodside Mills, Liberty, S. C.

George Clayton has been promoted from superintendent of Chronicle Mills, Belmont, N. C., to assistant to the manager of Chronicle, Stowe and National Mills in Belmont. . . . Robert W. Erwin, formerly with U. S. Rubber Co. in Gastonia, N. C., has been named to replace Clayton. . . . Forest Campbell has been named overseer of carding at Chronicle.

D. C. Gunter is retiring as superintendent of the R. C. G. Love Mill, Gastonia, N. C., unit of Burlington Industries, but will continue with Burlington in another capacity. Gunter was honored recently by mill employees on the occasion of his 13th anniversary as superintendent.

W. R. Barnes has been promoted to assistant overseer of spinning at Thomaston (Ga.) Mills. After joining the company in 1937, he worked on almost every job in the spinning room. He was shift overseer at the time of his promotion.

George McQuilkin, controller of The Kendall Co., Boston, Mass., has been named manager of Kendall's new J. W. Wood Co. subsidiary. McQuilkin, who will have complete responsibility for the Wood operation, joined Kendall in 1938. After World War II, he was associated with Lybrand, Ross Bros. & Montgomery before returning to Kendall in 1948. He has served as controller of the former cotton mills division and controller of the Chicago division and was named controller for the company in 1958.

John F. Shaw, vice-president and director of the Chicopee Mfg. Corp., New Brunswick, N. J., has retired after more than 26 years of service with the company. Thomas M. McAuley will be appointed general manager of Chicopee's operations in Chicopee Falls, Mass. Shaw holds this post in addition to his separate duties as vice-president and director.

McAuley

Shaw

Shaw joined Chicopee, an affiliated company of Johnson & Johnson, in 1935 as agent responsible for the cotton greige mill and finishing plant at Chicopee Falls. In 1936 he started up Chicopee's mill at Manchester, N. H., and managed operations at both locations until 1940. He was elected vice-president and a director in 1937. McAuley joined Chicopee in 1946 and was made assistant general manager in 1956.

Anderson

G. M. Anderson has been appointed Southern sales manager for the Corn Refining Division of Penick & Ford Ltd., Atlanta, Ga. He will replace P. G. Wear, who will retire January 1, 1962. Anderson joined the company in 1939 and spent several years in technical sales service and field development as manager of the textile division. He was most recently assistant Southern sales manager. . . . S. F. M. Maclaren has been appointed Eastern sales manager replacing W. S. Russell, who has been promoted to assistant to the vice-president. Maclaren joined the company in 1949. Prior to his promotion, he was district sales manager.

James D. Cantrell has been promoted to assistant personnel manager of both plants of Union Buffalo Mills, Union, S. C. He has been at the Union Plant for the past year under the supervisory development program.

William G. Kirby has been named general overseer of the weaving departments at Union. James L. Millwood has been promoted to shift overseer of the spinning department of the Buffalo Plant. Prior to his advancement, he was a section man. James L. Zimmerman has been named overseer of shipping and receiving at Buffalo. He has been with the company for some 19 years.

Heard

J. R. Heard, formerly manager of the textile division of the technical sales service and field development department of Penick & Ford, New York City, has been promoted to Industry Manager, textiles. Heard joined the company in 1956 after holding various positions in the textile field.

David P. Scattergood has joined Crompton & Knowles Corp., Worcester, Mass., as assistant treasurer. Scattergood was formerly with Cresap, McCormick & Paget, management consultants, New York City, where he was a senior associate. His business career includes service as financial vice-president of Transit Sales & Service Inc., Danbury, Conn., as well as with General Motors Overseas Operations in Pakistan, as assistant treasurer.

William K. Shirley has joined Kluttz Rings Inc., Gastonia, N. C., and will act as representative in Georgia, Alabama, Mississippi and lower Tennessee. Shirley was formerly with Whitinsville Spinning Ring Co. He will be located at Newnan, Ga., and will replace Hugh K. Smith of West Point, Ga.

Bowler

Joseph Bowler Jr. has been appointed general sales manager of the textile division of Dixon Corp., Monroe, N. C. Bowler has had more than 14 years experience in the textile machinery field. He was most recently associated with Leesona Corp., Providence, R. I. Prior to this he worked for five years with the Terrell Machine Co. in Charlotte.

Crown Carpet Mills Inc., Dalton, Ga., has announced the hiring of three new top executives. Arthur B. Lauman has been retained as president of the firm. He is a graduate textile engineer and was named general manager of the tufting and knitting division of A. & M. Karagheusian Inc., in Albany, Ga., in 1956. In 1960 he was named general sales manager of Seaboard Floor Coverings Inc. James C. Barbre was named executive vice-president and will be in charge of all manufacturing for Crown. Prior to joining the company, he was general manager of the tufting and knitting division of Karagheusian. Clifford D. Allen, formerly plant accountant and cost analyst of the tufting and knitting division of Karagheusian, has been treasurer and controller for Crown.

Charles L. Tidwell Jr. has recently been appointed representative for North Carolina, South Carolina and Georgia by Sjostrom Automations Inc. of Boca Raton, Fla. Sjostrom produces cutting, folding and stacking machines as well as other special machines for the textile industry. Tidwell is a graduate of Furman University, Greenville, S. C.

Max Gainer has been appointed plant manager at Erlanger Mills, Lexington, N. C., to succeed the late James McCutchen. Prior to his appointment at Erlanger, Gainer was with the Modena Plant of Klopman Mills, Gastonia, N. C.

Frank E. Barron has been named manager of the bedspread mill of Fieldcrest Mills, Spray, N. C. Barron has been serving as assistant mill manager since January 1. Prior to that he was mill superintendent. A textile graduate of Clemson College, he served with the Monarch Mills of Deering Milliken at Union, S. C., for five years. Barron joined Fieldcrest in 1951 and resigned in 1953 to become plant superintendent of Cheraw (S. C.) Cotton Mills. He rejoined Fieldcrest in May 1957 as assistant superintendent in the bedspread mill.

George P. DeBrule has been named superintendent of Craftspun Yarns Inc., Kings Mountain, N. C. Prior to his appointment, he was associated with the Irene Mills Division of Botany Cottons Inc. in Taylorsville, N. C.

John L. Severance has been elected executive vice-president of The Association of Cotton Textile Merchants of New York, effective with the retirement of W. Ray Bell,

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president, September 1. He was also appointed as the association's representative to the General Arbitration Council of the Textile Industry. Severance joined the association in 1944 as secretary. Prior to that he served as editor of *Textiles and Textile Fibers*. From 1952 to '60 he was lecturer in marketing at the Philadelphia College of Textiles & Science.

H. R. Hoke has been named plant manager of Aragon (Ga.) Mills, division of United Merchants & Manufacturers. Hoke, a graduate of Clemson College, has been with UM&M for ten years. For the past two years he has served as superintendent at Aragon. Hoke succeeeds C. T. Reed, who has been transferred to the Greenville, S. C., office of the fabric production division. Crawford Asbell has been named superintendent of the Aragon plant. He is being transferred from the company's Seminole Mills, Clearwater, S. C.

David R. Cahill has been appointed technical service manager of textiles for Shawinigan Resins Corp., Springfield, Mass. He joined Shawinigan in 1957 as a technical service representative after serving as a group leader in the research department of the Nashua Corp. He received a B. S. degree in chemical engineering from Northeastern University in 1945.

Calvert

Jackie W. Calvert, a member of the sales staff of the Spartanburg, S. C., office of Whitin Machine Works since 1958, has been transferred to the company's Greensboro, N. C. office. Calvert will assume the sales responsibilities of Walton V. Byers, who retired July 15. Byers had been with the Whitin selling organization since 1956 and with the Greensboro office of the company since it opened in 1957. Calvert graduated in 1952 from Clemson Textile School.

Robert H. Meadows of Charlotte, N. C., has been named sales representative for Ernest L. Frankl Associates, New York City. Meadows will cover primarily the Southern states for the various European machinery accounts of Frankl. He was previously associated with the Cosa Corp. of New York and prior to that was with Dan River Mills, Danville, Va.

Fortess

Fred Fortess, manager, dyeing and finishing laboratories, Celanese Fibers Co., Charlotte, N. C., has been selected to receive the 1961 Olney Medal of the American Association of Textile Chemists & Colorists. The Olney Medal, awarded by the association for outstanding scientific achievement in the field of textile chemistry, will be presented to Fortess at the A.A.T.C.C. national convention at the Statler-Hilton Hotel in Buffalo, N. Y., on September 28.

Brooke H. Duncan II has been appointed an adviser to the Southern Utilization Research & Development Division of the U. S. Department of Agriculture, New Orleans, La. Duncan is vice-president and general manager of The Foster Co. of New Orleans, manufacturers of canvas goods, and jobbers of cotton duck. He also serves in a similar capacity with its wholly-owned subsidiary, Foster Canvas Products Co., and as secretary-treasurer of Foster Aluminum Awning Co. He is a member of the board of directors of Canvas Products Association International. Duncan will advise the division on research of cotton awning and awning materials, providing a close working relationship between the canvas industry and the division.

A number of personnel changes and additions have been announced by the Chemstrand Corp., New York City. . . . Fred M. G. Gronemeyer, vice-president of industrial development, has been named senior vice-president and executive director of industrial development. . . . Carl O. Hoyer, vice-president, manufacturing, engineering and development, has been named senior vice-president, administration and control. . . . William G. Luttge, vice-president, marketing, has been named senior vice-president and assistant to the president. . . . Avron L. Davies, executive director, administration, has been named vice-president and executive director, administration. . . . Robert M. Crooks, director, industrial and community relations, has been named executive director, industrial and public relations. . . . Louis E. Dequine, director of nylon manufacturing, has been named executive director of that operation. . . . Paul W. Runge, executive director, nylon has been named vice-president and general manager of manufacturing, engineering and development. . . . Robert E. Smith, general manager of marketing, has been named vice-president and general manager of that department. . . . Robert L. Granger has been named director of nylon manufacturing for the corporation's Greenwood, S. C., Plant.

Ralph Davis has been named overseer of weaving at Opp Cotton Mills, Opp, Ala. For the past four years Davis has been superintendent of the Texas Textile Mills in Waco, Tex. For 12 years he served as superintendent of the Bama Mills in Enterprise, Ala.

Striegel

Karl K. Striegel has been promoted to the presidency of Kurt Salmon Associates, Greensboro, N. C. He was formerly a vice-president and chief engineer for the company. Striegel, who celebrated his 20th year with the company recently, will continue to make his headquarters in Greensboro, N. C. Kurt Salmon, who remains the chief executive of the company, will be chairman of the board.

OBITUARIES

Charles W. Causey Sr., 81, who at one time was an officer with Pomona Mills, Greensboro, N. C., and Lowe Mfg. Co., Huntsville, Ala., died August 5 in Greensboro. Mr. Causey retired 26 years ago from textile manufacturing. In 1905, he was named superintendent of the Winder (Ga.) Cotton Mills. Later he held a similar position with Camperdown Mills in Greenville, S. C. In 1910 he became general manager of the Brogon Mills in Anderson, S. C., and in 1919 bought an interest in Pomona and became treasurer. He acquired an interest in Lowe Mfg. Co. in 1921 and became its president and treasurer. Mr. Causey was a charter member of the Southern Cotton Manufacturers' Association and a director of Southern Webbing Co. in Greensboro. He is survived by three sons and a daughter.

Paul G. Gillespie, 56, died July 13 after a long illness. He had been associated with the Reeves Bros., New York, N. Y., textile group since 1930. He served as office manager at Mill's Mill in Woodruff, S. C., and later became assistant treasurer. Mr. Gillespie became associated with Fairforest Finishing Plant in Spartanburg, S. C., in 1951. He was transferred to Bishopville (S. C.) Finishing Co. in 1953 as office manager. In 1959 he was transferred to the Reeves Bros.' headquarters in New York. He is survived by his widow, two sisters and three brothers.

John Sprunt Hill, 92, former vice-president and director of Erwin Mills, Durham, N. C., died recently. He served as a vice-president for the company from 1921 to 1941 and a director from 1916 to 1946. Mr. Hill was a graduate of the University

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of North Carolina and practiced law in New York before joining Erwin in 1903. He served as a trustee of the university, member of the North Carolina Senate, member of the North Carolina State Highway Commission and member of the Durham City Council. Survivors include a son and two daughters.

A. Elkan Hohenberg, 61, president of Cotton Council International and head of Hohenberg Brothers Co., Memphis, Tenn., died recently of a heart attack. He had served as a director of the National Cotton Council for several years and was chairman of its foreign trade committee. He had also served as president of the American Cotton Shippers Association. Surviving are his widow, a son and a daughter.

Robert O. Jones, 87, prominent attorney and textile man, died recently in the Newnan (Ga.) Hospital. He was a former director of the Grantville (Ga.) Mills and had served for many years as a director and attorney of the Newnan Cotton Mills. He was vice-president of Newnan Mills from 1939 to 1951 and was chairman of the board from 1951 until the mills were purchased by Mount Vernon. Surviving are a daughter and a son.

Francis J. Murdoch, 75, retired head of the Salisbury (N. C.) Cotton Mills dyeing department, died July 4 at his home in Kinston, N. C. He attended Georgia Tech and was for ten years with the Marsh Cotton Mills before becoming associated with the Salisbury Cotton Mills as a chemist and dyer. He was head of the department when he retired three years ago. Mr. Murdoch is survived by four sons and four daughters.

David L. Norris, 81, chairman of the board of Norris Bros., Greenville, S. C., textile supply manufacturer, died July 18 after a short illness. Mr. Norris retired as president and treasurer of Norris Bros. in 1952, but continued as board chairman. Surviving are his widow, three daughters and two sons.

Edward Robinson Schwarz, 62, head of the textile technology department at the Massachusetts Institute of Technology, died recently. He graduated from M.I.T. in 1923 and became an instructor in 1925. He was given a professorship in 1937. Mr. Schwarz was a Founding Fellow of the Textile Research Institute where he served as vice-president and director of editorial policies. He was also a Fellow of the Textile Institute, Manchester, England and a member of the American Association for the Advancement of Science. He was a holder of the Olney Medal from the American Association of Textile Chemists & Colorists and the Harold deWitt Smith Memorial Medal of the American Society for Testing Materials. Mr. Schwarz is survived by a son and two daughters.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

EUFAULA, ALA.—Plans for a modernization program costing in excess of $1 million have been announced by Cowikee Mills. The mills were completely modernized four years ago but innovations in the industry since that time make the additional outlay necessary, according to Donald Comer Jr., president. The modernization program four years ago cost approximately $1.7 million.

MT. HOLLY, N. C.—Sales of American & Efird Mills for the first quarter of the current fiscal year were up 16.1% while net income jumped 142% in comparison with the first quarter last year. Figures for the quarter were: net sales $12.2 million compared with $10.5 million; net earnings $209,897 against $86,648 for the same quarter last year. Order backlogs are about the same as they were last year according to the company.

NEW YORK, N. Y.—Riegel Textile Corp. has announced decreases of 43.6% in earnings and 12.7% in sales for the 40 weeks ending July 8. Net profit for the period was $1.1 million as compared with $1.9 million for the 40 weeks ending July 9, 1960. Consolidated net sales for the period were $62.6 million against $71.6 million during the same period last year.

BOSTON, MASS.—The Kendall Co. has established record sales in 1961 but earnings have not kept pace because of increased selling expenses, according to President Richard R. Higgins. Earnings of $913,000 for the second 12 weeks of the year compared with earnings of $1.2 million for the same period of 1960. Sales of $26.8 million for the second 12 weeks of this year continued to show improvement over 1960 when sales were $26.2 million in the same period. For the first 24 weeks, sales were $52.7 million, a new record high for the company. Higgins said that incoming business had been favorable recently and that added volume gained through sales of new products and the activity of the recently-announced J. W. Wood Elastic Web Co. acquisition indicates a further expansion of sales as the year progresses.

SPRAY, N. C.—Fieldcrest Mills has announced plans to build a new retail Fieldcrest store to include a complete Fieldcrest shop, displaying the company's line of domestic products. The store is scheduled for completion in 1962. It will be in colonial achitecture. Income from the store will go to the Fieldcrest Foundation for continuing its work of supporting local institutions, such as the Y.M.C.A., Boys' Clubs, etc.

GREENSBORO, N. C.—Burlington Industries has acquired the assets of Globe Mills Co. with plants at Mt. Holly and Lincolnton, N. C. The two spinning plants will supplement Burlington's yarn producing operations as units of Burlington Yarn Co. No changes are contemplated in Globe Mills operating personnel.

STATESBORO, GA.—A. & M. Karagheusian has announced that it will gradually close its two New Jersey plants and move its operations here when its new $5 million plant is completed early in 1962. Steele L. Winterer, president, said the new facility will be used to manufacture woolen and synthetic yarns for its line of carpets which are woven at the firm's plants in Albany, Ga.; Aberdeen, N. C.; Neptune, N. J.; and Freehold, N. J. Except for a small group of technical and management personnel, the new plant is to be staffed with Statesboro employees numbering some 300. The land for the plant was purchased by Statesboro area residents for some $35,000.

BALTIMORE, MD.—Sales for Mt. Vernon Mills for the second quarter ending June 30 were $8.6 million, off some 6.5% from the $9.2 million for the same period last year. Profits stand at $73,000, off some 64% from $244,000 last year for this quarter. For the last six months, sales were $17.1 million, off 15% from the $20.0 million at this time last year. Earnings were $244,000 compared with $419,000 during the first six months of 1960. Thomas M. Bancroft, president, reports that a substantial increase in the volume of new business booked in recent weeks, together with some improvement in selling prices, indicates a betterment in earnings for the second half, if these conditions are sustained.

KANNAPOLIS, N. C.—Cannon Mills Co. has signed an agreement with the Post Office Department to construct a new post office here. Under terms of the agreement, Cannon will build the facility and then lease it to the government at $17,500 annually under a 15-year lease.

CHARLOTTE, N. C.—Negotiations for the purchase of the former Ix Mill in Cornelius, N. C., between Samuel Hird & Sons and Reeves Bros. Inc., are expected to be completed shortly. Reeves currently leases more than 100,000 square feet of the 275,000-square-foot building for its Curon operations.

GREENSBORO, N. C.—Net sales increased but net income declined sharply during the first six months of this year for Cone Mills Corp. Sales for the first six months in 1961 amounted to $107.9 million as compared with $103.2 million last year. Profits were given as $1.3 million after taxes as compared with $2.9 million in the same period a year ago. The 1961 figures include the operations of John Wolf Textiles Inc., acquired by Cone January 1, 1961.

SPARTANBURG, S. C.—Deering Milliken Research Corp. has announced an expansion program which will add to the existing chemical research facilities and will produce an entirely new cotton processing and spinning research facility. The processing and spinning research unit is to follow plans developed jointly by Deering Milliken Research and the membership of the Institute of Textile Technology at Charlottesville, Va. The unit will be designed so that as further new developments occur, they can

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be easily installed and evaluated on a production basis. While all of the machinery has not been selected as yet, parts of it will come from the U. S., England, Switzerland, Germany and Japan. Purchases of foreign equipment have and will be made only when machinery of comparable performance and quality is not available domestically, according to Roger Milliken, president.

NINETY SIX, S. C.—Greenwood Mills has announced plans to build a new cotton goods plant here approximately equivalent to its 17-month-old $6 million Sloan Plant. The new plant, to be called the Adams Plant after L. B. Adams, company treasurer, will employ some 350 people when completed. No construction schedule has been given. The company also plans to modernize its Ninety Six Plant, dividing it into two separate operations. J. B. Harris, Greenwood board chairman, said that there might be questions raised over the construction and modernization in the face of imports and increased cotton prices, but that the company's long-range planning indicates that industry conditions will improve.

SPRINGFIELD, TENN.—The installation of new dyeing and processing machinery has been completed at a cost of over $100,000, by Springfield Woolen Mills.

DANVILLE, VA. — Consolidated net sales of Dan River Mills for the six months period ended July 1 amounted to $74.2 million compared with $85.9 million in the first half a year ago. Net earnings were $2.4 million against $3.7 million last year. The decline in earnings was due largely to reduced sales volume and lower fabric prices, according to the company. Commenting on the future outlook, W. J. Erwin, president, said he was optimistic Dan River would have a gain in sales volume in the last half of the year, with the improvement to take place mostly in the fourth quarter. He noted that the company's forward orders had increased in recent weeks.

PHILADELPHIA, PA.—The Military Clothing & Textile Supply Agency has awarded two contracts for the manufacture of cotton sateen cloth. J. P. Stevens received a contract for two million yards at a price of $1,193,600. The other contract went to Prestex Corp. of New York for 2.55 million yards at $1,800,000. Cone Mills' Edna Plant at Reidsville, N. C., will produce the fabric for Prestex.

JACKSON, GA. — Avondale Mills has announced plans to sell the mill houses belonging to Pepperton Cotton Mills, which it acquired recently. The present residents of each house will get first buying option. In the company's two-family homes, the family living there the longest has the first chance, with the second family having the option if the first family doesn't buy. To buy a house and lot, a family must pay 10% down. After that, payments of 5% interest on the unpaid balance will be arranged over a period of 12 years, with the unpaid balance corrected every two weeks. Avondale will pay for the insurance and taxes on the houses during the period of purchasing.

BOSTON, MASS.—Pepperell Mfg. Co. reports a 9.3% decrease in sales and a decrease of 7.8% in earnings for the fiscal year ended June 30. The company had net earnings of $3.2 million on sales of $91.0 million for the fiscal year as compared with a net of $3.5 million on sales of $100.3 million for the previous year.

ALEXANDER CITY, ALA. — Russell Mfg. Co. has ordered 16 new Saco-Lowell Magne-Draft spinning frames, involving 4,608 spindles; one 96-spindle Rovematic roving frame; and a one-process picker.

GREENSBORO, N. C. — Net income for Burlington Industries declined some 16% to $6.4 million for the third quarter on sales of $215.5 million, off 3.8%. These figures compare with earnings of $7.6 million on sales of $224.0 million for the third quarter last year. For the first nine months, earnings amounted to $16.2 million, a drop of some 43.7% from the $28.8 million during the comparable nine months of last year. Sales for this period amounted to $637.5 million as compared with $688.5 million last year.

TRION, GA. — Riegel Textile Corp. has received a contract from the Military Clothing & Textile Supply Agency of the Philadelphia Quartermaster Center for three million yards of cotton sateen fabric at a bid price of $1,901,100.

DURHAM, N. C.—Erwin Mills reports an increase of 7.2% in net sales for the three-month period ended June 30. A profit of $571,992 was shown on sales of $19.2 million. This compares with sales of $17.9 million and profits of $569,422 for the same period a year ago. For the nine-month period ended June 30, sales totaled $51 million, up 4.5% over 1960. But profits during the period dropped 25% from $1.7 million to $1.3 million.

WEST POINT, GA. — West Point Mfg. Co. has announced plans for the construction of a modern new million-dollar Martex towel warehouse near Fairfax, Ala. The one-story structure, to be built of concrete and steel, will contain 212,709 square feet of floor space for storing, packing and shipping operations, as well as office facilities. Two loading docks will be provided for shipping by rail and truck. An unloading dock will be available for receiving. Cost of the building, equipment, railroad siding, fencing, parking area, drainage and related items will total approximately $1.3 million. Full operations are expected to be underway at the warehouse during early 1962. All Martex storage, final packing and shipping activities now carried on at the Fairfax mill division will be transferred to the facility. A specially-built tractor-trailer unit will haul finished towels from the Fairfax plant to the warehouse. Especially designed conveyor systems are to be installed for loading, unloading and transporting materials throughout the huge warehouse. Interior features will include multi-level steel racks on which cartons of towels can be stored with maximum efficiency. Wide alleys will permit use of fork lift trucks. Both gravity-flow and motor-powered conveyors will be used extensively in the new operation. In addition, modern automatic packing equipment and related items will be installed.

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Textile Industry Schedule

For additional data (reservation requirements, membership requirements, program details, etc.) on activities listed here, contact name(s) shown in parentheses.

Sept. 7-8 (Th-F)—Annual meeting, Combed Yarn Spinners Association, The Greenbrier, White Sulphur Springs, W. Va. (Exec. Sec.: James H. Campbell, 427 W. Franklin Ave., Gastonia, N. C.)

Sept. 14-15 (Th-F)—Fifth annual Textile Processing Symposium, American Gas Association, Clemson House, Clemson, S. C.

Sept. 14-15 (Th-F)—Annual Outing, Chattanooga Yarn Association, The Reed House, Chattanooga, Tenn. (Chattanooga Yarn Association, Chattanooga, Tenn.)

Sept. 15-16 (F-Sa)—Fall meeting, Palmetto Section, A.A.T.C.C., Clemson House, Clemson, S. C.

Sept. 21-22 (Th-F)—Fall meeting, Southern Textile Methods and Standards Association, Clemson House, Clemson, S. C. (Howard L. Loveless, Exec. Sec., S.T.M.A.S.A., P. O. Box 10144, Knoxville, Tenn.)

Sept. 21-22 (Th-F)—Annual meeting, Carded Yarn Association, The Cloister, Sea Island, Ga. (Exec. V.-P.: E. O. Fitzsimons, P. O. Box 869, Charlotte 1, N. C.)

Sept. 23 (Sa)—Fall meeting, Piedmont Section, A.A.T.C.C., Hotel Charlotte, Charlotte, N. C. (Sec.: E. P. Lavoie, Morningstar-Paisley Inc., Box 3622, Charlotte, N. C.)

Sept. 28-30 (Th-Sa)—National convention, American Association of Textile Chemists & Colorists, Hotel Statler, Buffalo, N. Y. (A.A.T.C.C., P. O. Box 28, Lowell, Mass.)

Oct. 5-6 (Th-F)—Fall meeting, Textile Quality Control Association, Sedgefield Inn, Greensboro. (Sec.: Werner Pels, National Cotton Council, Ring Bldg., Room 502, 1200—18th St., N.W., Washington 6, D. C.)

Oct. 5-6 (Th-F)—Annual meeting, North Carolina Textile Manufacturers Association, Carolina Hotel, Pinehurst, N. C. (Sec.: T. N. Ingram, 1008 Wachovia Bank Bldg., Charlotte, N. C.)

Oct. 7 (Sa)—Fall meeting, Alabama Textile Operating Executives, Thach Auditorium, Auburn University, Auburn, Ala. (Exec. Sec.: Cleveland L. Adams, Auburn University)

Oct. 11-13 (W-F)—Fall meeting, The Fiber Society, U. S. Hotel Thayer, West Point, N. Y. (Sec.: Julian S. Jacobs, Box 405, Athens, Ga.)

Oct. 12-21 (Th-Sa)—North Carolina Trade Fair, Charlotte Coliseum and Merchandise Mart, Charlotte, N. C.

Oct. 14 (Sa)—Fall meeting, Georgia Textile Operating Executives, Hightower Bldg., Georgia Tech, Atlanta. (Sec.: Herman Dickert, School of Textiles, Ga. Tech).

Oct. 14 (Sa)—Fall meeting, South Carolina Division, Southern Textile Association, Clemson, S. C. (Chairman: E. L. Ramey, Inman Mills, Inman, S. C.)

Oct. 19-20 (Th-F)—First meeting, Southern Textile Research Conference, sponsored by Piedmont Section, A.A.T.C.C., William Hilton Inn, Hilton Head Island, S. C. (Chairman, Vernon C. Smith, Burlington Industries Inc., Box B-2, Greensboro, N. C.)

Oct. 21 (Sa)—Fall meeting, Northern North Carolina-Virginia Division, Southern Textile Association, Cooleemee, N. C. (Chairman: Herman Cone Jr., Cone Mills Corp., Greensboro, N. C.)

Oct. 28 (Sa)—Fall meeting, Eastern Carolina Division, Southern Textile Association, School of Textiles, N. C. State College. (Chairman: Gilbert C. Mays, Erwin Mills, Durham, N. C.)

Nov. 1-2 (W-Th)—Annual meeting, Textile Engineering Division, American Society of Mechanical Engineers, Massachusetts Institute of Technology, Cambridge, Mass. (Chairman: Prof. Elliot B. Grover, School of Textiles, North Carolina State College, Raleigh.)

Nov. 8-9 (W-Th)—Chemical Finishing Conference, sponsored by the National Cotton Council, Sheraton Park Hotel, Washington, D. C. (National Cotton Council, Ring Bldg., Room 502, 1200-18th St., N.W., Washington 6, D. C.)

Nov. 9—(Th)—Fall meeting, Piedmont Division, Southern Textile Association, Johnston Memorial Y.M.C.A., Charlotte. (Chairman, J. W. Inscoe, Carolina Mills Inc., Maiden, N. C.)

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday; (Su) Sunday

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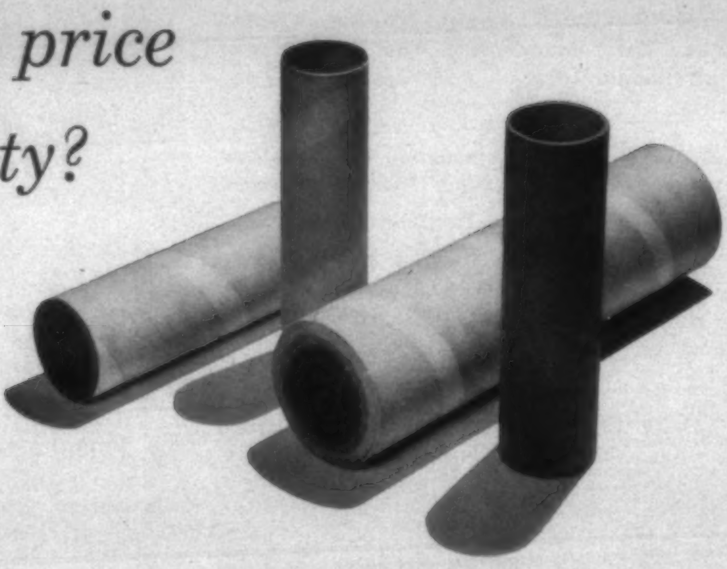

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textile bulletin

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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Looking Back 186 Years

WE recently had the loan of an interesting volume from Mr. George McFetters of the Greensboro (N. C.) Loom Reed Co., a volume he purchased for a sizeable number of shekels from a used book dealer. The 400-page tome is titled *L'Art Fabriquant D'Etoffes De Soie*. After consulting a number of authorities—the janitor, three postmen and a fellow who dropped in thinking we might want to buy his manuscript on the use of jute in Aztec fabrics—we finally found out that this means "The Art of Producing Silk Material."

The book, as you have assumed by now, is in French, which made the perusal of its pages a trifle difficult. However, about the middle of the book, we did locate a largely self-explanatory picture section. Most of the pictures are diagrammatic of the laborious manual druggery necessary in the production of fabrics in 1775.

A quick glance of the pictures gives one an increased sense of gratitude to all those inventive and mechanical geniuses who have applied their talents to the mechanization and automation of the textile industry—and to the machinery manufacturers who have carried out these improvements.

Carried back in time, we could envision ourselves sitting in a hardbacked chair splitting bamboo rods for making loom reeds, or doing any one of the thousand other onerous chores involved in textile manufacturing in those days. So we hereby remove our hats in honor of Whitney, Arkwright, Hargreaves, Kay and all others who followed, are following and will follow in their progressive footsteps.

Make Your Plans Now To Attend An Industry Meeting

A FULL Fall schedule of trade meetings begins this month (see Textile Industry Schedule, page 91), and this issue includes the programs for as many of them as were available at press time.

- There's the 5th Annual Textile Processing Symposium of the American Gas Association at Clemson September 14-15 (program on page 82).
- The 1961 national convention of the American Association of Textile Chemists & Colorists at the Statler-Hilton Hotel in Buffalo, N. Y., September 27-29 (page 81).
- The Fall meeting of the Textile Quality Control Association at the Sedgefield Inn, Greensboro, October 5-6 (page 81).
- The Annual Conference on Electrical Applications for the Textile Industry, American Institute of Electrical Engineers, Barringer Hotel, Charlotte, October 5-6 (page 82).
- The annual meeting of the North Carolina Textile Manufacturers Association October 5-6 at Pinehurst, N. C. (page 82).
- The Fall meeting of the Fiber Society October 11-13 at the U. S. Hotel Thayer, West Point, N. Y. (page 77).
- And the first meeting of the Southern Textile Research Conference October 19-20 at the William Hilton Inn, Hilton Head, S. C., sponsored by the Piedmont Section of the A.A.T.C.C. (page 72).

Programs for other meetings listed in the schedule have already been carried or will be carried as they become available. But now's the time to plan *your* schedule, and any of the sponsoring groups will be pleased to provide any additional information you might want on their activities.

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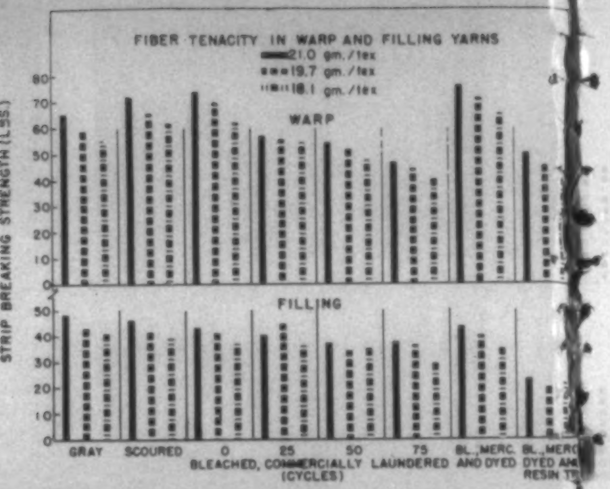

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ROCK HILL COLOR gets set for good with Mutual Sodium Bichromate

This young lady is outstanding in her colorfast cotton dress printed and dyed by Rock Hill Printing & Finishing Co., a division of M. Lowenstein & Sons, Inc. The color is set to stay, because Rock Hill uses Mutual® Sodium Bichromate as the oxidizing agent in their sulfur and vat dyeing of cotton.

You, too, may be able to take advantage of the excellent handling characteristics of this economical but high quality product.

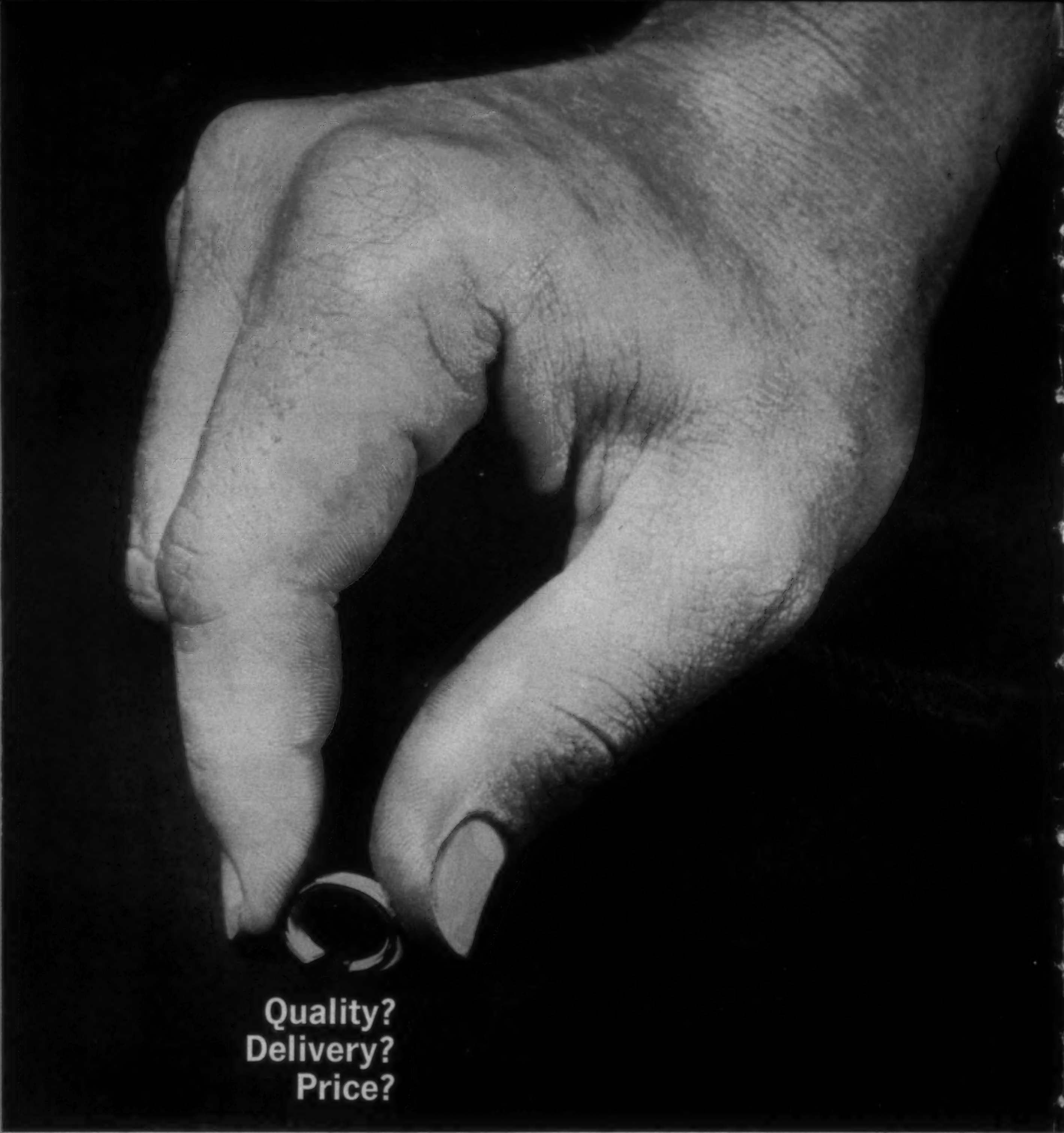
Mutual Sodium Bichromate is available in both granular and solution form and in a variety of packages to insure the most efficient and economical application to your processing needs. Solvay technical service men can help you choose wisely—and aid in applying the product to your process.

For a complete description of Mutual Sodium Bichromate and the full line of Mutual Chromium Chemicals, write for your free copy of Solvay's new 80-page technical bulletin, "Chromium Chemicals." It contains detailed information on uses and properties with comprehensive technical data.

SOLVAY® CHEMICALS FOR TEXTILES
Caustic Soda • Chlorine • Hydrogen Peroxide • Sodium Nitrite • Mutual® Chromium Chemicals • Potassium Carbonate • Soda Ash

SOLVAY PROCESS DIVISION
61 Broadway, New York 6, N. Y.

Allied Chemical



You get all 3 when you specify Victor Ring Travelers

Quality comes first in most people's minds. In the case of ring travelers, quality means precision. **And precision means Victor Ring Travelers.** From the standpoint of metallurgy, size, shape, and polish, they're made right—and that rightness shows in production figures. But quality doesn't count unless you know you can get what you need when you need it. Again, Victor comes through. You enjoy same-day service on all stocked sizes and styles . . . exceptional speed of delivery on special orders, too. What about cost? Victor Ring Travelers are your most economical buy. Little wonder: like all Saco-Lowell parts, they're **built for better performance . . . backed by better service.**

SACO-LOWELL SHOPS
REPLACEMENT PARTS DIVISION
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